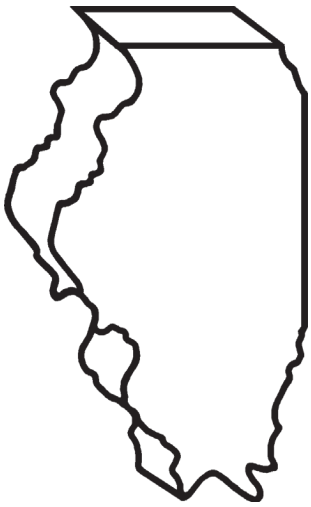

Introduction to Residential Assessment Practices

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Course 1-A Outline

Introduction to Residential Assessment Practices

Glossary: Intro to Residential Assessment Practices

Actual age - the number of years that have elapsed from the year of construction to the present date.

Ad valorem - according to value.

***Ad valorem* tax** - a tax levied according to value.

Assessed Value (AV) - the value placed on property for tax purposes and used as a basis for distribution of the tax burden. Most of the time this amount is subject to the State-issued equalization factor and the deduction of various homestead exemptions on residential parcels.

Building residual - the building value derived from the sales price minus the lot value.

CDU rating - modifies the normal age depreciation of an improvement according to the appraiser's determination of the improvement's condition, desirability, and utility.

Cost approach - calculating the cost of reproducing the improvements, subtracting accrued depreciation, and adding land value.

Cost factor - used to adjust the cost schedules for differences in local construction labor and material rates.

Depreciation - loss of value from any cause, *i.e.,* physical depreciation, functional obsolescence, and economic obsolescence.

Effective age - age of an improvement based on the improvement's CDU rating; effective age does not always equal actual age.

Equalized Assessed Value (EAV) - the assessed value multiplied by the State equalization factor. This gives the property value from which the tax rate is calculated after deducting all qualified homestead exemptions. For farm acreage, farm buildings, and coal rights, the final assessed value is the equalized assessed value. Individual tax bills are calculated by multiplying the individual district's tax rates by the equalized assessed value after all qualifying exemptions have been removed.

Front foot price - supposes that each foot of lot frontage is worth the same dollar amount; used to indicate lot value.

Improvement - any structure attached to, lying upon, or within the land that may not be removed without physical stress.

Income approach - calculating the present worth of the income from an income-producing property.

IRV formula - formula for income approach to value; I (income) = R (capitalization rate) x V (market value).

Legal description - a description in words or numbers judged legally sufficient to locate and identify a parcel of land.

Market Value - the most probable sales price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus.

Mean - an arithmetic average.

Median - the middle value of a ranked set of numbers.

Mode - the number that occurs most frequently in a set of numbers.

Property record card (PRC) - used to record individual property appraisals for assessment purposes.

Quality grade - used to adjust cost schedules for differences in the quality of construction materials and workmanship.

Replacement cost new (RCN) — represents current cost of replacing an improvement.

Remaining Economic Life (REL) - period of time over which a prudent investor would reasonably expect to recapture his or her investment.

Sales comparison (or market) approach - calculating the value of properties by observing and analyzing the selling prices of comparable properties.

Acronyms

AEV = Agricultural Economic Value
AV = Assessed Value
BOR = Board of Review
CCAO = Chief County Assessment Officer
CDU = Condition, Desirability, Utility
EAV = Equalized Assessed Value
EGI = Effective Gross Income
IDOR = Illinois Department of Revenue
NI = Net Income
PGI = Potential Gross Income
PIN = Property Index Number
PRC = Property Record Card
PTAB = Property Tax Appeal Board
RCN = Replacement Cost New
REL = Remaining Economic Life
SF = Square Footage
SFFA = Square Foot Floor Area
SFGA = Square Foot Ground Area

Where to get Assistance or Information

Web Sites

- Property Tax Division: https://www2.illinois.gov/rev/localgovernments/property/Pages/default.aspx
- Property Tax Code (35 ILCS 200): www.ilga.gov
- Illinois Property Tax Appeal Board: http://www.ptab.illinois.gov/

Publications

- PTAX-1004 The Illinois Property Tax System https://www2.illinois.gov/rev/research/publications/Documents/localgovernment/ptax-1004.pdf
- Publication 123, Instructions for Residential and Condominium Schedules https://www2.illinois.gov/rev/research/publications/pubs/Documents/pub-123.pdf
- Publication 126, Instructions for Commercial Schedules https://www2.illinois.gov/rev/research/publications/pubs/Documents/pub-126.pdf
- PIO-62, An Overview of the Property Tax Extension Limitation Law by Referendum https://www2.illinois.gov/rev/research/publications/Documents/pios/pio-62.pdf

Unit 1

An Overview of the Property Tax Cycle and the Appeal Process

This unit covers the history of property taxation and gives an overview of the property tax system, the property tax cycle, and the appeal process.

The purpose of this unit is to provide a basic understanding of property taxation, the establishment of value for tax purposes, and the two-year property tax cycle, beginning with the creation of the assessment books and concluding with the sale of a lien on real estate due to nonpayment of taxes.

Learning Objectives

After completing the assigned readings, you should be able to

- outline the flow of the assessment books from the creation of the books through their use in the preparation of the collector's books.
- identify the roles various township and county officials play in the property tax cycle.
- identify established completion dates for various processes.

Terms and Concepts

- Real property
- Personal property
- *Ad valorem* tax
- Market value
- Assessment cycle
- Assessment
- Statutory level of assessment
- State-assessed property
- Assessment date
- Equalized Assessed Value (EAV)
- Budget and levy cycle
- Levy

An Overview of Property Tax

When Illinois became a state in 1818, the constitution contained a provision for taxing property in direct proportion to the value of property. From 1818 to 1930, amendments to the constitution provided the state with various powers concerning property taxation. The last year the state levied real estate taxes was 1932. Since then, property taxes have been levied at the local level.

Property tax is governed by the Property Tax Code, 35 ILCS 200/1-1 through 32-20. Property tax is a local tax assessed by the county or township. Revenues from property tax are collected and spent at the local level. The Department issues guidelines, determines county equalization factors, approves non-homestead exemptions, distributes assessment manuals, and provides technical assistance and assessment training to local assessing officials.

Property can be divided into two classes — real and personal. **Real property** is land and anything permanently attached to the land, *e.g.,* buildings and fixtures permanently or constructively attached to a building. (Section 1-130.) **Personal property** is all property that is not real property. Some examples of personal property include automobiles, livestock, money, and furniture.

All owners of real property must pay property taxes unless specifically exempted by state law. Owners of business, industrial, agricultural, and residential property all pay property taxes. Renters also contribute to the property taxes, but do so indirectly through their rent. Landlords consider taxes as a cost of doing business and adjust their rents to cover this cost.

In Illinois, taxpayers now pay property taxes only on their real property. Personal property tax on individuals was eliminated by the 1969 law that instituted the Illinois Income Tax. Corporations, partnerships, limited partnerships, joint ventures, and similar entities continued to pay taxes on personal property until 1979. These business entities now pay a replacement tax on income or invested capital. Business entities pay this tax to the Department, who distributes the monies to the local taxing districts in proportion to the amount received previously from the personal property tax.

Property taxes are raised, spent, and distributed locally. Property taxation produces more than three-fourths of the total tax revenue and finances a major part of the services provided by local governmental units that benefit citizens and their property. The largest share of the property tax goes to school districts.

Property tax is a tax that is based on the value of the property owned, and is assessed according to its value. For this reason, it is often called an ***ad valorem* tax,** or a tax according to value. Value is a complicated concept with many definitions. Most real property in Illinois must be assessed based on its value in the open market. **Market value** is the most probable sale price of a property in terms of money in a competitive and open market, assuming that the buyer and seller are acting prudently and knowledgeably, allowing sufficient time for the sale, and assuming that the price is not affected by undue stimulus.

The determination of market value for tax purposes is the job of assessors, who use one or more of the following three basic approaches to estimate market value:

1. **Sales comparison, or market approach** — calculating the value of properties by observing and analyzing the selling prices of comparable properties;

2. **Cost approach** — calculating the cost of replacing the improvements, subtracting accrued depreciation, and adding land value; and

3. **Income approach** — calculating the present worth of the income from an income-producing property.

The determination of market value requires skilled and knowledgeable assessing officials. To encourage assessing officials to improve their knowledge and skill in determining value, the state pays a stipend to any chief county assessment officer (CCAO), township assessor, deputy assessor, or member of a board of review who earns certain professional designations and continues his or her education each year.

The Property Tax Cycle

The property tax cycle, from the assessment of property to the collection and distribution of taxes, takes nearly two years for most property. Some steps take place concurrently, but basically it can be divided into six steps.

1. Assessment
2. Review
3. Equalization
4. Levy
5. Extension
6. Collection and distribution

The Assessment Cycle

The **assessment cycle** begins with the creation of the assessment books and ends with the review of the assessments by the board of review. The assessment cycle takes from nine to twelve months to complete, depending on the size of the county and the number of assessment complaints filed with each board of review. The steps in the assessment cycle are

1. assessment
2. review
3. equalization

Step 1: Assessment

An assessment involves four steps:

1. Identifying the real property within a jurisdiction
2. listing it
3. appraising it
4. placing a value for it on the tax rolls

This value is known as the assessment and is the basis for determining what portion of the total tax burden each property owner as of January 1 will bear. (Section 9-175) In Illinois, the statutory assessment level is one-third or 33 1/3 percent of market value, unless set otherwise by law. (Section 9-145)

Most property is locally assessed by township and county officials. In all counties except Cook and the 17 commission counties, township or multi-township assessors have the primary assessment responsibility. Assessors must qualify to hold office on the basis of prescribed course work in assessment techniques.

In the 17 commission counties — Alexander, Calhoun, Edwards, Hardin, Johnson, Massac, Menard, Morgan, Monroe, Perry, Pope, Pulaski, Randolph, Scott, Union, Wabash, and Williamson — that have no township level of government, the supervisor of assessments has the primary assessment responsibility. In Cook County, the county assessor takes the primary responsibility for the assessment of property.

Supervisors of assessments and county assessors are referred to as chief county assessment officers (CCAOs). The work of township and multi-township assessors is subject to review and, if necessary, revision by the supervisor of assessments. The supervisor of assessments is usually appointed by the county board. The supervisor of assessments must have two years of relevant experience, pass a qualifying examination administered by the Department, and

possess a professional appraisal designation specified in the statutes. Some counties have an elected county assessor or supervisor of assessments.

A few types of property are assessed by the state, such as railroad operating property, railroad right-of-way and track, water treatment facilities, and pollution-control facilities that have been certified as such by the Illinois Environmental Protection Agency. The value of **state-assessed property** is a small percentage of the value of all taxable property. State-assessed property is valued by the Department and these assessments are certified to the appropriate county clerks for inclusion in local tax bases.

In Illinois, property is to be viewed, inspected, and revalued once every four years in all counties but Cook, which has a three-year reassessment cycle. Between these quadrennial assessments, assessors may revalue any property whose value has changed or is incorrect. Farm acreage must be reassessed annually.

The **assessment date** in Illinois is January 1. On that date, the assessment cycle begins for all real property which must be valued as to its condition at that point and time. The Property Tax Code requires that on or before this date the CCAO call on the county clerk to receive the assessment books listing all parcels of real estate to be assessed in each of the townships in the county. The assessment book has columns for the property index number (PIN), the name of owner, the assessment by the township assessor, the assessment by the CCAO, and the final assessment by the board of review for each parcel. The CCAO conducts a meeting with the township assessors to give instructions to the assessors, inform them of any changes, and give them the assessment books.

Procedures for the establishment of farmland assessments begin on May 1 in the year prior to the assessment date with the certification of proposed values from the Department to the CCAO. These values are used to make the assessments for the assessment year beginning on the following January 1. (Section 10-110 through 10-135)

In most non-commission counties, township and multi-township assessors should complete their assessments by June 15. After assessors have certified their assessment books as being correct and complete, they return them to the CCAO, who has until the latter of the third Monday in June or 90 days after the Township certification of the books to the CCAO to examine the books and make any changes necessary to achieve fairness. Assessment books are then given to the county board of review for subsequent review and equalization.

Taxpayers have the right to inspect property record cards and other assessment records for any property, subject to reasonable rules and regulations established by local authorities. (Section 9-30)

Step 2 and 3: Review and Equalization

Review and intra-county equalization are performed by the CCAO and the board of review. While both the CCAO and the board of review have the power to equalize, normally only one will do so. Review at this level is generally an informal review of the assessment roll. Formal review on a complaint by the taxpayer takes place at the board of review.

The CCAO examines the assessment book and makes any changes that will make assessments more equitable. He or she may equalize assessments by applying a factor to all assessments for either a township, an area, or a class of property. All assessments that have been changed from the previous assessment year must be published in a newspaper. However, only the equalization factor must be published for properties that had assessment changes due solely to equalization. Individual notices must be mailed to taxpayers whose assessments were changed for any reason other than an equalization factor.

Any assessment change made by the CCAO is entered in his or her own column in the assessment books. The CCAO certifies the assessment books to the county board of review by the latter of the third Monday in June or 90 days after the Township certification of the books to the CCAO. The CCAO compiles and sends a tentative abstract of assessments to the Department. The information on the abstract is used to determine if the level of assessments has changed since the data for the Department's sales ratio study was collected. The Department then certifies a tentative inter-county equalization factor, often called a "tentative state multiplier," to the CCAO and county clerk and holds a public hearing on the factor.

The board of review convenes on the first Monday in June in most counties (Section 16-30) and completes its work no later than March 15th of the following year (Section 16-35). The board has several important duties in the assessment cycle. For prior years, the board assesses property that was inadvertently omitted from the assessment rolls. They hear the formal complaints of taxpayers and make any necessary assessment changes. The board can also make individual assessment changes on its own volition. However, the taxpayer and township assessor must be notified of these changes and given an opportunity to be heard before the board.

In addition, the board reviews applications from property owners, such as churches, schools, and local governmental units, who believe their properties should be exempt from property taxes. The board makes a recommendation to the Department as to whether these properties should be exempt. The Department makes the final determination. The board of review also equalizes assessments by township, area, or class of property and sends a report on equalization to the Department.

Any assessment changes are entered in the board of review's own column in the assessment books. Individual notices must be sent to the affected taxpayers when any change by the board of review, whether it is an individual assessment change or a change resulting from equalization, is made. The board of review then certifies the assessment books to the county clerk.

Completion of the Assessment Cycle

After the county clerk receives the assessment books from the board of review, the clerk prepares an abstract of assessments that the Department uses in the computation of the final equalization factor for the county. Once the county clerk receives the Department's certification of the final equalization factor and the certification of the state-assessed railroad operating property, water treatment facilities, and pollution control facilities, he or she applies the final equalization factor to the local assessments as certified by the board of review. This results in the **equalized assessed value (EAV)**. These EAVs are the final values used to compute tax rates and to extend taxes. This completes the assessment cycle.

Assessment Cycle

County Clerk:	Prepares two sets of real estate books and delivers to the CCAO by January 1.
CCAO:	Meets with township assessors before January 1 and establishes guidelines; delivers one set of books to township.
Township assessor:	Values real estate as of January 1 and returns books to CCAO by June 15; can equalize.
CCAO:	1. Reviews assessments made by township assessors; makes changes. 2. Equalizes assessments within county by class, by area, or by township. 3. Mails changes of assessment notices to taxpayers. 4. Publishes changes in newspaper of general circulation. 5. Delivers books to board of review by the third Monday in June or 90 days after the TA certifies the books to CCAO. 6. Prepares tentative abstract of assessment report; mails report to the Department.
Department of Revenue:	Develops tentative equalization factor; publishes factor in newspaper. Holds public hearing.
Board of review:	1. Assesses omitted property. 2. Acts on non-homestead exemptions and mails to Department for approval. 3. Hears complaints from taxpayers and makes assessment changes on any property when deemed necessary. 4. Mails changes of assessment notices to taxpayers. 5. Equalizes assessments within county by class or area, if necessary. 6. Delivers books to county clerk. 7. Mails report on equalization to Department. 8. Makes a list of changes and gives the list to the CCAO and county clerk.
County clerk:	Prepares final abstract of assessments and mails to Department.
Department of Revenue:	Certifies final equalization and mails to county clerk.
County clerk:	Applies equalization factor to all local assessments, except farmland, coal rights, farm buildings, and state-assessed property.
Department of Revenue:	Certifies state assessments and mails to county clerk.
County Clerk:	Totals the EAV for each taxing district.

Budget and Levy Cycle

While the assessment cycle determines the allocation of the tax burden among property owners, the **budget and levy cycle** determines the total amount of property tax to be allocated to the property owners. The three steps in the budget and levy cycle are

1. levy
2. extension
3. collection and distribution

Step 1: Levy

The budget and levy cycle begins in the fall of the assessment year when most boards of review are still in session. At this time, taxing districts have generally determined their budgets for the next fiscal year and have held a public hearing on this budget. Taxpayers who are concerned with the amount of property tax distributed to taxing districts should attend these public hearings and voice their opinions concerning how much money will be needed from property tax.

After the budget is approved, the taxing districts can then calculate the amount of revenue needed from property tax. This amount is certified to the county clerk as the property tax **levy** on or before the last Tuesday in December. The amount levied is the total amount that taxpayers will pay on their property tax bills in the following year.

Step 2: Extension

Once the assessment cycle is complete, the county clerk receives the assessment books from the board of review and applies the county equalization factor from the Department to the individual assessments. With this information, and the levies received from the taxing districts, the county clerk proceeds with the extension of taxes. Extension is a two-step process that includes the computation of tax rates and the application of those rates to the EAVs of the individual parcels of real estate.

In the first step, tax rates are computed by dividing a taxing district's levy by the total EAV of all parcels of property in the taxing district. Some tax rates are subject to statutory maximums. If the calculated rate is above the maximum rate, the county clerk uses the maximum rate.

Example Computation of Tax Rate:

Levy	=	$1,000
EAV in dist	=	$100,000
Tax rate	=	Levy / EAV
Tax rate	=	$1,000 / $100,000
Tax rate	=	.01 or 1 percent

Tax rates are normally expressed in dollars per $100 of EAV. In the example above, the tax rate is $1/$100 of EAV, or $1 in taxes for each $100 of EAV.

In the second step of the extension process, the individual tax bills are extended in the collector's book by multiplying the EAV of each property by the sum of the tax rates for all districts in which the property is located. This sum is called the aggregate tax rate. A typical aggregate rate would include rates for the county, township, school district, and municipality, and could also include rates for a park district, fire protection district, library district, *etc.,* depending on where the property is located.

Example Computation of Tax Extension:

Assume the property's aggregate tax rate is $7.00/$100 and the property's EAV is $20,000.

Tax bill	=	EAV x aggregate tax rate
Tax bill	=	$20,000 x $7.00/$100 (or .07)
Tax bill	=	$1,400

For this example, the collector's book would normally show an abbreviated legal description of the property, the owner's name, the property index number (PIN), the EAV of $20,000, the tax code that indicates what combination of taxing districts the property is located in, the aggregate tax rate of $7.00/$100, the tax bill in two equal installments of $700 each, and spaces to enter the payments for the two installments.

The statutory date for the delivery of the collector's books from the county clerk to the county treasurer, who also serves as the *ex officio* county collector, is December 31 of the assessment year. As a practical matter, the collector's books are not normally given to the county treasurer until March or April of the year following the assessment year, since the levies are not due until the last Tuesday in December and some boards of review adjourn in December or later. This is 15 to 16 months into the property tax cycle.

Step 3: Collection and Distribution

The county treasurer prepares a property tax bill for each property listed in the collector's books. The bill is mailed by May 1 of the year following the assessment year. For counties that use a two-installment method, the first installment is due by June 1, and the second installment is due by September 1. Once the treasurer begins receiving money from either installment, he or she distributes the monies to the appropriate taxing districts.

Soon after September 1, the county treasurer prepares a list of properties for which taxes have not been paid. This delinquent tax list is published in a newspaper, and notices are sent to the owners of the properties. These notices specify that the treasurer will apply to the circuit court for a judgment against the property for delinquent taxes. If taxes remain unpaid, the court will order a lien to be sold at the tax sale in the amount of the unpaid property taxes, interest, penalty, and fees.

The tax sale usually occurs in late October, approximately 22 months into the property tax cycle, with the county clerk and county treasurer presiding. A lien on the property is sold through a bidding process in which bidders, also called tax buyers, state the percent of interest for which they are willing to purchase the lien, starting at 18 percent per 6 months, and going lower until the lowest bidder purchases the lien. The tax buyer pays the amount of the lien and receives a certificate of purchase from the county clerk. The county treasurer then distributes revenues from the tax sale to the taxing districts.

Once the lien is sold, the property owner may redeem it by paying to the county clerk the amount of the lien, interest, penalty, and fees. The amount of the lien and interest is then paid by the county to the tax buyer, who must surrender the certificate of purchase. A tax buyer may eventually obtain a tax deed for the property if the tax lien is not redeemed.

The table on the following page shows the budget and levy cycle.

Budget and Levy Cycle

Taxing body:	1. Prepares tentative budget 2. Publishes notice of public hearing; puts tentative budget on display 30 days before public hearing 3. Holds public hearing 4. Passes budget with changes in form of ordinance 5. If necessary, makes truth-in-taxation publication and holds hearing 6. Gives certificate of levy to county clerk by the last Tuesday in December
County clerk:	1. Calculates tax rates and computes aggregate tax rate for each combination of taxing districts 2. Extends taxes on the total EAV in each taxing district and enters the amounts in the collector's books 3. Prepares and delivers collector's books to county treasurer by December 31
County treasurer (collector):	1. Prepares and mails tax bills by May 1* 2. Collects first installment for real estate by June 1* 3. Distributes tax money proportionately to taxing districts as money is collected 4. Collects second installment for real estate taxes by September 1* 5. Prepares delinquent tax list and sends notice of application for judgment on real estate
Circuit court:	1. Pronounces judgment for sale of a lien on real estate due to nonpayment of taxes 2. Rules on tax objections
County clerk and treasurer:	Administers sale of lien on real estate due to nonpayment of taxes

* For counties that use accelerated billing, the estimated bill is mailed by January 31; the first installment is due by March 1 (or the date provided in the county ordinance or resolution); the last installment is normally due by August 1. Counties can also adopt a four-installment payment schedule.

Property Assessment Appeals

Property taxes are levied, collected, and spent locally to finance a major part of the services that local units of government provide to their citizens. Since property is assessed at the local level, the Department has no direct involvement in the assessment appeal process. The following is a general guide to the assessment appeal process in Illinois.

When going through the appeal process the property owner is appealing the assessed value of the property, not the tax bill. The amount of the tax bill is determined by the tax rates that are applied to the assessment by various taxing districts, such as schools, parks, libraries. If the assessment is to increase the county must publish the change in a local newspaper. Tax rates are not an issue in the appeal process, only the amount of the assessment. Once the tax bill is received, it is generally too late to make an appeal for that year's assessment.

Reasons for an Appeal

A formal complaint may be filed based on any of the following claims:

- The assessor's market value is higher than actual market value. This claim can be supported if the property has recently been purchased on the open market or if a professional appraisal is supplied.
- The assessed value is at a higher percentage of market value for the property than the prevailing township or county median level, as shown in an assessment/sales ratio study.
- The assessment is based on inaccurate information, such as an incorrect measurement of a lot or building.
- The assessment is higher than those of similar neighboring properties.

Informal Appeal

If a property owner has a complaint, the local assessing official should be the first person contacted. An assessor who still has assessment books for a given year can correct any assessment. Calling an erroneous assessment to the assessor's attention early in the year may result in a correction without using the formal appeal process. Property owners should contact their township or county supervisor of assessments for information.

Formal Appeal

If the informal appeal is unsuccessful, the property owner should proceed with a formal appeal to the reviewing board in the county in which the property is located.

Steps in the Appeal Process

An appeal of assessment, other than land or farm buildings, has seven steps.

1. Determine the fair market value for the property.
2. Determine the prevailing assessment level in the jurisdiction.
3. Obtain the assessed valuation of the property.
4. Discuss the assessment with the assessor.
5. Determine the basis for the formal complaint.
6. File a written complaint with the board of review.
7. Present evidence of unfair assessment at the hearing to the board of review in counties other than Cook, or to the board of appeals in Cook County. If a property owner is dissatisfied with the board's decision, the owner can appeal the decision to the State Property Tax Appeal Board, in writing, or file a tax objection complaint in circuit court.

The local assessing official should be contacted for information regarding the steps in appealing a farm land or farm building assessment.

Evidence Needed

To support a claim of an unfair assessment, substantial evidence is required. Some evidence may be obtained from the township or county assessing official's office, from a professional appraiser, or through research. Pertinent evidence for nonfarm property should include some or all of the following:

- a copy of the property record card (PRC) and photograph for the property under appeal,
- a copy of Form PTAX-203, Real Estate Transfer Declaration, a deed, or a contract for purchase,
- an appraisal of the property,
- a list of recent sales of comparable properties, including photographs, PRCs, and evidence of the sale prices,
- a photograph of elements detracting from the value of the property not shown on the PRC and an estimate, in terms of dollars, of their negative effect on the market value, and
- a copy of PRCs and photographs of similar or neighboring properties.

Role of the board of review

Section 16-55 of the Property Tax Code states “On written complaint that any property is over assessed or under assessed, the board shall review the assessment, and correct it, as appears to be just, but in no case shall the property be assessed at a higher percentage of fair cash value than other property in the assessment district prior to equalization by the board or the Department.”

Reviewing assessment complaints is perhaps the most important function performed by the board during its session. A great deal of time, energy, and resources is required to ensure that a fair sharing of the tax burden through equity of assessments is achieved throughout the jurisdiction.

Summary

Property is divided into two classes – **real and personal**.

Ad valorem means according to value. Real property in Illinois is assessed according to value; therefore it is an *ad valorem* tax.

Market value is the most probable sale price of a property in terms of money in a competitive and open market, assuming that the buyer and seller are acting prudently and knowledgeably, allowing sufficient time for the sale, and assuming the price is not affected by undue stimulus. The three approaches to value are **the sales comparison or market approach, the cost approach, and the income approach**.

Property is assessed according to its condition on **January 1** of each year.

The **CCAO** reviews assessments made by township assessors and makes changes when deemed necessary.

The **board of review** hears complaints and makes changes to assessments when deemed necessary. The board of review makes the final decision on property values at the county level.

The **county clerk** calculates tax rates and extends taxes on individual parcels of property.

The **county treasurer** prepares and mails tax bills. If taxes are not paid on time, the treasurer prepares a delinquent tax list and publishes a notice of application to the court for judgment against the property for delinquent taxes, interest, and penalties which results in a lien being placed on the affected property. The **county clerk** and the **treasurer** then administer a sale of the lien at a tax sale each year. Only the lien for unpaid taxes, interest, and penalties is sold, not the real estate.

Unit 1 – Review Questions

1. Define *ad valorem* tax.

2. _____ is the major source of tax revenue for local governments.

3. What are the two classifications of property?
   - **a.**
   - **b.**

4. The largest share of property tax goes to _____.

5. List three approaches to value.
   - **a.**
   - **b.**
   - **c.**

6. What four steps are involved in the assessment of any property?
   - **a.**
   - **b.**
   - **c.**
   - **d.**

7. What three types of properties are assessed by the state?
   - **a.**
   - **b.**
   - **c.**

8. What happens if an individual does not pay his or her taxes?

9. Who has the statutory authority to review assessments made by the township assessor and make changes when deemed necessary?
   - **a.**
   - **b.**

10. List in order, the offices that actually handle the assessment books, from the time they are created until the taxes are extended.

a.

b.

c.

d.

e.

f.

11. Property is valued as to its condition on _____, the assessment date.

12. The _____ makes the final decision on property values at the county level.

Unit 2

Using the Cost Approach to Arrive at Value

This unit covers the cost approach. The purpose of this unit is to provide a basic understanding of the cost approach method.

Learning Objectives

After completing the assigned readings, you should be able to

- understand the formula for the cost approach.
- identify the three types of depreciation and how they affect value.
- calculate a cost factor.
- conduct a cost factor study.
- define a mass appraisal system.

Key Terms and Concepts

- Cost approach
- Replacement cost new (RCN)
- Physical depreciation
- Functional depreciation
- Economic depreciation
- Cost factor
- Cost factor study
- Mass appraisal
- Highest and best use
- Principle of substitution
- Assessment publications

Principle of Highest and Best Use

Before determining a property's market value, the property's highest and best use must first be determined. Property has its highest value at its highest and best use. **Highest and best use** is defined as "that use that will produce the highest net return to the land for a given period of time, within the limits of those uses which are economically feasible, probable, and legally permissible." The use must be legal, does not involve criminal activities, and is not contrary to local regulations such as zoning. The use should be probable and not speculative in nature, and should also be one for which there is a demand. The highest and best use will be a complimentary use, rather than one that is competitive.

A property's highest and best use is generally its current use. However, consider a single-family residential property in a commercially zoned area along a busy street. The highest and best use of this property could easily be a store or an office building. The use that would lead to the highest net return to the property would be the highest and best use.

Principle of Substitution

The **principle of substitution** provides the basis of the three approaches to value and states that a buyer is not justified in paying more for a property than it would cost to acquire an equally desirable, substitute property. That is, the value of a property is established as the amount equally desirable to comparable properties that are being bought and sold for in the market.

The Three Approaches to Value

The three approaches to valuing real property are the sales comparison or market approach, the cost approach, and the income approach.

1. **The sales comparison or market approach —** compares properties that have recently sold to the subject property that is being appraised.
2. **The cost approach —** involves calculating the replacement cost of the building, subtracting accrued depreciation, and adding land value.
3. **The income approach —** involves capitalizing the property's net earnings.

Mass Appraisal

Mass appraisal is the valuation of many properties as of January 1 of the assessment year, using standard procedures that provide uniformity.

The purpose of mass appraisal is to produce equitable and efficient appraisals of all property in a jurisdiction for *ad valorem* tax purposes. A mass appraisal system should incorporate all three approaches to value.

The Cost Approach

The market value of a property can be estimated using the **cost approach** by estimating the value of the land, adding the **replacement cost new (RCN)** of the improvements, and subtracting the depreciation from the improvements. An **improvement** is defined as any structure attached to, lying upon or within the land, that cannot be removed without physical stress.

The formula for the cost approach is

Market Value = Land Value + (RCN – Depreciation)

The **land value** is usually estimated by using the sales comparison, or market approach, to value. This approach is applied by comparing the subject site with sales of comparable sites that are vacant.

The RCN is the current cost of constructing improvements having utility equal to that of the subject improvements. It may or may not be the cost of reproducing a replica of the subject improvement. The distinction between the two is that **replacement cost** refers to a substitute property of equal utility whereas **reproduction cost** refers to an exact replica property. In a particular situation, the two concepts may be interchangeable, but not necessarily so. Both RCN and reproduction cost have their application in the cost approach to value. The differences are reconciled in the application of depreciation allowances. The RCN includes the total cost of construction incurred by the builder.

There are several acceptable methods for establishing the replacement cost new of a structure. However, only the two more popular methods are discussed: the component-in-place method and the square foot method. Both of these methods can be used to develop a cost manual for a specific geographic area.

The component-in-place method is used by builders or contractors because it is very accurate. This method combines the direct and indirect costs of labor, material, and overhead for each unit in place for a portion or area of the structure. All these units are then added together to arrive at the total cost for the structure.

The square foot method is another widely used method for calculating the RCN. This method is based on the floor area of the structure and generally is used for residential buildings.

Replacement cost represents the upper limit of value of a structure. The difference between RCN and the present value is **depreciation,** the loss of value from all causes**.** The third and final step in completing the cost approach is to estimate the amount of depreciation.

The Three Types of Depreciation

Three types of depreciation exist:

1. **Physical Depreciation**
2. **Functional Obsolescence**
3. **Economic Obsolescence**

Within the three types of depreciation are two depreciation conditions: deterioration and obsolescence. Deterioration occurs as the property declines in condition. Obsolescence occurs as the property phases out of use or becomes obsolete.

Depreciation can be either curable or incurable. Depreciation is curable when the cost to cure will add to the market value of the structure. It is incurable when the cost to cure is greater than the increase in the market value of the structure.

Physical depreciation is defined as the loss in value due to deterioration, *e.g.*, wear and tear, time, and the action of the elements. Physical depreciation begins while a building is under construction and continues until the life of the structure has ended.

The physical life of a building is dependent on

- the degree of maintenance it receives,
- the type and quality of materials used in its construction, and
- the soundness of the methods of its builder.

Examples of the two types of curable and incurable depreciation are

1. **Curable** — short-lived components, such as windows, doors, floor coverings, and roofs.
2. **Incurable** — long-lived components, such as foundations, studs, and rafters.

Both **functional and economic obsolescence** are defined as the loss of value due to forces other than physical that act upon a structure in such a way as to limit its economic life.

Functional obsolescence refers to obsolescence resulting from conditions within the property, such as imbalance in construction features or inadequate design or arrangement that lessen its usefulness or utility.

Examples of the two types of curable and incurable functional obsolescence are

1. **Curable** — lack of air conditioning, lack of proper electrical wiring, low hanging pipes, and absence of proper ventilation.
2. **Incurable** — extremely poor floor plan, very low or high ceilings.

Economic obsolescence refers to obsolescence caused by influences outside the property, such as physical, economic, social, and governmental changes that have an adverse effect upon the stability and quality of the neighborhood in general.

Examples of economic obsolescence, usually incurable are

- **Location** — change in traffic pattern and noise and air pollution
- **Economic** — high interest rates and business closings
- **Government** — zoning changes, poor services, and high tax rate

The significance of the cost approach lies in its extent of application. It is the one approach that can be used on all types of construction. The widest applications are in mass appraisal and the appraisal of properties that lack adequate market and income data, which prevent the application of the other approaches to value.

The Responsibility of the Assessor

Simply stated, the job or responsibility of the assessor is to place an assessed value in his or her column of the assessment books for each of the properties in the jurisdiction.

There are four steps the assessor must complete for each property in the jurisdiction. The assessor must

1. **Discover —** find and inventory all real property using tax maps and property index numbers; find new construction by observation, reviewing building permits, and other methods.

2. **List —** describe the characteristics of land and improvements on property record cards, including the measurement of improvements.

3. **Value —** estimate the value of all real property in the jurisdiction and ensure uniformity and equity in the methods used and the market values produced.

4. **Assess —** apply an assessment level to these market values to arrive at an assessed value for each of the properties in the jurisdiction. Ensure that the assessed values reflect a uniform level of assessments, and that these assessed values are derived from current market values.

Unlike an independent appraiser who has the time to carefully analyze the various approaches to value before arriving at an estimate of value for one property, the assessor must estimate values within a relatively short period of time. The assessor is a mass appraiser.

The cost schedules discussed in Unit 3 are used to apply the cost approach to value in a mass appraisal system. It is unreasonable to expect that every building value obtained through the use of these schedules will be exact. However, it is expected that the value estimates produced be well within tolerable limits. The outcome of this system still depends greatly on the professional judgment of the assessor. This is especially true when the assessor must use factors that will adjust various values before arriving at the final value of the subject property. These factors are defined in the following unit. There are guidelines that can be used to establish factors, but the assessor must continually rely on his or her skill and experience when assigning individual factors to each property.

Cost Factor

The figures provided in Publication 123, Instructions for Residential and Condominium Schedules (Pub-123), represent the cost of labor and materials in central Illinois. A **cost factor** is designed to adjust the Publication 123 Replacement Cost New (RCN) value to reflect the local cost of labor and material in other areas. The use of a cost factor may be necessary for any assessor whose jurisdiction is not similar to the central Illinois area. You will calculate a cost factor by performing a cost factor study for use with the class exercises in Unit 4.

Steps in Calculating a Cost Factor

1. Find arms-length sales of improved properties on which the improvements are **one year old or less,** which eliminates adjusting for depreciation.

2. Subtract the current land values from those sale prices to obtain the value of the improvement or building.

   Building value = sale price - land value

3. Determine the RCN for each building.

4. Divide each building value by the corresponding RCN to obtain a cost factor for each sale.

   $$\text{Cost factor} = \frac{\text{Building value}}{\text{Pub-123 RCN}}$$

5. Rank the factors.

6. Select the median factor as the overall cost factor.

7. Apply the overall cost factor to the Pub-123 RCN of all property within the jurisdiction.

   The true RCN is equal to the Pub-123 RCN multiplied by the cost factor.

   True RCN = Pub-123 RCN x Cost Factor

Exercise 2-1: Cost Factor Study

The purpose of a cost factor study is to determine the factor to be used to adjust the values found in Pub-123 to reflect the labor and material costs found in your local area. Once this factor is determined, it is applied to all construction within the jurisdiction.

When computing a cost factor, it is important to remember to use only improvements that have an actual age of one year or less, eliminating the need to factor in depreciation.

A cost factor greater than 1.00 indicates that Pub-123 values are too **low** for the jurisdiction, so you must **increase** the RCN values. A cost factor less than 1.00 indicates that Pub-123 values are too **high** for the jurisdiction, so you must **decrease** the RCN values.

In this exercise, use the worksheet on the following pages to determine a cost factor for 15 sales. There are several formulas that you will need to use to determine the cost factor.

The first formula is used to determine the building value or building residual.

Step 1:
Looking at Sale 1, the age column lists the improvement as new. To find the building residual, subtract the lot value of $17,000 from the sale price of $104,000. The remainder of $87,000 is the building residual or building value.

Building residual = sale price – lot value
$104,000 - $17,000 = $87,000

Step 2:
Divide the building residual of $87,000 by the Pub-123 RCN of $82,300, which gives you a cost factor of 1.06. ***Note*:** For this exercise round to 2 decimal places.

Cost Factor = Building Residual ÷ Pub-123 Value
$87,000 ÷ $82,300 = 1.06

Looking at Sale 2, the age column lists the improvement as new. Use the formula for the building residual and subtract the lot value of $17,000 from the sale price of $97,700, which produces a building residual of $80,700.

$97,700 - $17,000 = $80,700

Divide the building residual of $80,700 by Pub-123 RCN of $78,400, which gives you a cost factor of 1.03.

$80,700 ÷ $78,400 = 1.03 cost factor

Continue the computations for the remaining sales as outlined above.

Exercise 2-1 Worksheet: Cost Factor Study

Sale Number	Age	Sale Price	-	Lot Value	=	Building Residual	÷	Pub Value	=	Cost Factor
1	N	$104,000		$17,000		$87,000		$82,300		1.06
2	N	$ 97,700		$17,000		_____		$78,400		_____
3	N	$ 67,800		$10,500		$57,300		$54,500		1.05
4	N	$ 62,900		$ 8,000		_____		$51,800		_____
5	N	$ 85,600		$15,500		$70,100		$63,700		1.10
6	N	$ 89,200		$16,000		_____		$63,100		_____
7	N	$ 80,300		$16,000		$64,300		$61,200		1.05
8	N	$ 88,300		$16,500		_____		$69,000		_____
9	30	$ 53,500		$ 8,000		$45,500		$47,900		.95
10	N	$ 93,100		$16,500		_____		$72,100		_____
11	N	$ 76,700		$16,500		$60,200		$58,300		1.03
12	N	$ 86,500		$16,000		_____		$66,500		_____
13	44	$ 67,900		$11,000		$56,900		$59,300		.96
14	N	$ 92,700		$16,000		_____		$69,500		_____
15	12	$ 72,400		$11,000		$61,400		$60,200		1.02

Step 3:
The last step is to select the median after ranking all the cost factors that meet the age criteria. The factors can be ranked from highest to lowest or from lowest to highest.

Note: If you have an odd number of factors, select the median or middle value as the cost factor for your jurisdiction. If the number of factors is even, add the two middle factors together, then divide the sum by two, and use the average as your cost factor.

The cost factor that is determined is applied to all construction within a jurisdiction and will be used for all of the residential property record (PRC) examples in this workbook.

Rank:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____ **Median = _____**
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____

Summary

The market value of a property can be estimated using the **cost approach** by estimating the value of the land, adding the **replacement cost new (RCN)** of the improvements, and subtracting the depreciation from the improvements.

Replacement cost represents the upper limit of value of a structure. The difference between RCN and the present value is **depreciation,** the loss of value from all causes**.**

There are three types of depreciation that exist: **physical depreciation, functional obsolescence,** and **economic obsolescence.**

A cost factor is designed to adjust Publication 123 **replacement cost new (RCN)** value to reflect the local cost of labor and materials.

Unit 2 Review Questions

1. What are the three types of depreciation? Place a check mark next to the one that is generally incurable.

   _____ _____

   _____ _____

   _____ _____

2. What is the purpose of a cost factor?

   _____

   _____

3. What is a mass appraisal system?

   _____

   _____

Unit 3

Mass Appraisal and Residential Square Foot Schedules

This unit covers the mass appraisal system and the various factors used to adapt a mass appraisal system to local jurisdictions. It also covers the residential square foot schedules in Publication 123, Instructions for Residential and Condominium Schedules (Pub-123).

The purpose of this unit is to provide a basic understanding of a mass appraisal system and its use. In addition, the unit explains the use of the schedules to value property using the cost approach.

Learning Objectives

After completing the assigned readings, you should be able to

- identify the various factors used to adjust Pub-123.
- explain how the various factors are obtained and used.
- identify the use of Pub-123.
- identify and use the various cost tables in the manual.
- understand and use a remaining economic life (REL) depreciation table.

Key Terms and Concepts

- Cost approach
- Quality grade
- Remaining economic life (REL)
- Depreciation
- Actual age
- Effective age
- CDU (condition, desirability, and utility) rating
- Standard 5 plumbing fixtures
- Property record card 1 (PRC-1)
- Property record card 2 (PRC-2)
- Base price
- Full value
- Replacement cost new (RCN)

Factors used in Publication 123

Cost Factor

As discussed in Unit 2, a **cost factor** is designed to adjust Pub-123 RCN value to reflect the local cost of labor and material in other areas. The use of a cost factor may be necessary for any jurisdiction that is not similar to the central Illinois area.

Quality Grade

The accuracy of an RCN obtained from Pub-123 is greatly affected by proper quality grading. A **quality grade** represents the quality of construction, workmanship, and materials used in a project. The quality of workmanship and materials can greatly affect the cost of construction and the value of the improvement. It is best to determine the quality grade when a property is being built and when field work is being performed.

The majority of improvements fall within a definite class of construction involving average quality of workmanship and materials. This type of construction is designated as grade "C" which carries a factor of 100 percent or 1.00. The cost tables in Pub-123 represent quality grade "C". A different quality grade factor may be used if the subject property was not built using average quality materials and workmanship.
There are six basic quality grades in Pub-123.

Grade	Quality	Factor
AA	Superior Quality	225 percent
A	Excellent Quality	150 percent
B	Good Quality	122 percent
C	Average Quality	100 percent
D	Cheap Quality	82 percent
E	Very Cheap Quality	50 percent

Pluses and minuses, after the letter grade, can be used to fine-tune these adjustments. For example, a "C+10" grade improvement would have a grade factor of 10 percent above "C," or 110 percent.

A quality grade must be assigned to each improvement and should be established during construction if at all possible.

It is important **not** to confuse quality and condition. **Condition** refers to the physical condition of the improvement. Condition changes due to depreciation, such as wear and tear, use, and abuse. Quality, as stated above, refers to the construction, workmanship, and materials used.

Design Factor

Another factor that may be used to adjust a building's RCN is the **design factor**. The cost schedules in Pub-123 are designed for use in determining RCN values for conventional, rectangular-shaped structures of compact, efficient design. In recent years though, architectural designs have become more diverse. There is an increased cost associated with such structures due to the need for more material and more labor per square foot.

The following details should be considered in determining whether to use a design factor.

- Irregular foundation outline
- Wide roof overhangs
- An unusual amount of built-in features
- A number of special features, such as costly paneling, expensive fireplace mantles, and large fireplace chimneys
- The use of mixed materials in the interior and the exterior of a home
- Glass houses, earth homes, vacation homes
- Unusual architectural designs

The design factor is handled in the same manner as a quality grade factor; it is assigned to individual homes and usually remains unchanged during the life of the structure.

To determine a design factor, the percentage increase or decrease in cost due to the design feature or features must be determined. These costs should be verified through the contractor. The original contractor can provide a certified construction cost value. Several opinions from local contractors are also beneficial in verifying costs.

A design factor can be determined by the formula

$$\frac{\textbf{Contractor's Costs}}{\textbf{Pub-123 RCN}}$$

Typically, a minus 13 percent to a plus 50 percent adjustment is made to Pub-123 RCN value when using a design factor. A design factor is more commonly used in quality grades "B", "A", and "AA" improvements, although it may be required for grade "C" construction.

Appraiser Factor

A jurisdiction may have more than one assessor. Some jurisdictions may employ field appraisers to determine the quality grades of all buildings within that jurisdiction. Because quality grades are based on the judgment of one individual, it is possible that quality grades may be assigned that are consistently higher or lower than what other assessors or appraisers in that jurisdiction would have assigned to those buildings. In order to maintain uniformity, an **appraiser factor** is required to bring those buildings, valued by that particular individual, more in line with the value of the rest of the buildings in the jurisdiction. This factor is applied to all the parcels listed by the individual assessor.

The appraiser factor is developed using a method similar to that used to obtain the cost factor. Additional information on this factor and other factors is available in Pub-123.

Neighborhood Factor

The neighborhood where the property is located has a direct effect on the value. The neighborhood of a property may be defined by a natural boundary formed by rivers, or political boundaries formed by zoning to protect the common use in an area. The neighborhood should be analyzed to determine if the area is in a stage of growth, stability, or decline in order to estimate the future use and value.

A Review of the Factors

The **quality grade** is used to adjust Pub-123 RCN values to reflect the quality of materials and workmanship of the improvement. This grade typically remains unchanged during the lifetime of the structure.

Cost factor x design factor x neighborhood factor x appraiser factor - These factors are chain-multiplied to reflect a true RCN of the improvement.

Exercise 3-1 – Multiplying Factors

Remember to round to two decimal places when computing your Factor.

Cost	X	Design	X	Neighborhood	X	Appraiser	=	Factor
1.06	x	1.03	x	1.02	x	1.04	=	1.16
1.06	x	1.00	x	.98	x	.98	=	_____
1.06	x	1.05	x	1.00	x	1.00	=	_____
1.06	x	1.01	x	1.10	x	1.00	=	_____

REL/Depreciation

The final factor that is applied to all improvements is a **remaining economic life (REL)** factor. This factor is applied to the true RCN to arrive at a full market value, which now reflects the adjustment made for depreciation.

Depreciation is the loss in value due to a number of factors. Generally, depreciation is placed into three categories: physical; functional; and external, or economic, depreciation. All depreciating forces act concurrently, but not at the same rate.

Use of the Residential REL Depreciation Table

Schedule A — This schedule takes into account the **actual age** of the improvement, and what is referred to as the CDU rating of the improvement, to arrive at an **effective age**. This effective age is then used to find the remaining economic life factor, which is applied to the true RCN.

The **CDU rating** is assigned to each property by comparing that subject property's physical condition "C," desirability "D," and utility "U" to other properties within the neighborhood, or within a jurisdiction if neighborhoods have not been established.

The CDU rating is the method for determining a rate of depreciation. The **condition** refers to physical depreciation, such as wear and tear and action of the elements that has taken place. The **desirability** refers to the economic or external depreciation, such as lack of appeal due to location, or some type of adverse influences outside the boundary lines of the property. The **utility** refers to functional obsolescence, such as inefficient and impractical arrangement of rooms and any super-adequacy or inadequacy that may be present.

The CDU rating is broken down into five classifications.

E	Excellent	Superior condition
G	Good	Better than average condition
A	Average	Normal wear and tear for area
P	Poor	Definitely below average condition
U	Unsound	Excessively deteriorated condition

How to use the Residential REL Depreciation Table

- Step 1: Locate the actual age of the improvement (based on year of construction) in the “Age” column of Schedule A.

- Step 2: Determine the CDU of the subject and locate it along the upper portion of Schedule A.

- Step 3: Trace the age to its point of intersection with the CDU and find the effective age.

  For example, a property that has an age of “10” with a CDU rating of “good” has an effective age of “7” in Schedule A.

- Step 4: This effective age is then located on Schedule B in the column headed “Eff. Age”. The percentage factor indicated in the right column of Schedule B is the REL factor. This factor is then applied to the true RCN, which depreciates the value to reflect full market value. REL is directly related to depreciation.

  For example, a property with an effective age of “7” has an REL of 92%.

  REL % + Depr % = 100%, or

  100% - REL factor expressed as a percent = percent of depreciation

  For example: a property with an REL of 92% has depreciated 8%.
  100% - 92% = 8%

The assessor must carefully review CDU ratings over time because the CDU rating of each property may change for a variety of reasons. Because each property is assigned an individual CDU rating, a change of one CDU may not require a change in the CDU ratings of other properties within the neighborhood.

Residential REL Table

Schedule A

Age	Effective Age E	G	A	P	U	Age	Effective Age E	G	A	P	U
1	1	1	1	14	27	51	32	42	51	66	76
2	1	1	2	15	28	52	32	43	52	67	77
3	1	2	3	16	29	53	33	44	53	68	78
4	1	2	4	16	30	54	33	44	54	68	78
5	1	3	5	17	31	55	33	45	55	69	80
6	2	4	6	17	32	56	34	46	56	70	81
7	2	5	7	18	33	57	34	47	57	71	82
8	2	6	8	19	34	58	35	48	58	72	83
9	2	6	9	20	35	59	35	48	59	72	83
10	2	7	10	21	38	60	36	49	60	73	83
11	3	7	11	22	39	61	37	50	61	73	85
12	3	8	12	23	39	62	38	50	62	74	86
13	3	9	13	24	40	63	39	51	63	74	86
14	4	10	14	24	40	64	40	52	64	76	88
15	4	11	15	25	40	65	42	53	65	78	90
16	4	12	16	26	43	66	42	53	66	78	91
17	4	13	17	30	45	67	43	55	67	80	93
18	5	14	18	31	46	68	44	58	68	84	97
19	5	15	19	31	46	69	45	59	69	86	100
20	6	16	20	32	47	70	46	60	70	88	102
21	8	16	21	33	48						
22	10	17	22	33	48						
23	10	18	23	34	49						
24	11	19	24	35	50						
25	11	20	25	35	50						
26	12	21	26	36	51						
27	12	22	27	38	52						
28	13	23	28	38	52						
29	13	24	29	39	53						
30	13	25	30	40	54						
31	14	25	31	40	54						
32	15	26	32	42	56						
33	16	27	33	44	59						
34	17	28	34	46	60						
35	18	29	35	47	61						
36	19	30	36	48	62						
37	20	31	37	50	64						
38	21	31	38	51	64						
39	22	32	39	53	65						
40	23	33	40	54	66						
41	24	34	41	55	67						
42	25	35	42	56	67						
43	25	36	43	57	68						
44	26	38	44	59	69						
45	27	39	45	60	70						
46	28	39	46	60	70						
47	29	40	47	61	70						
48	30	40	48	62	71						
49	31	41	49	64	73						
50	32	41	50	65	75						

Schedule B

Eff. Age	REL	Eff. Age	REL
1	99	51	51
2	97	52	50
3	96	53	49
4	95	54	48
5	94	55	47
6	93	56	47
7	92	57	47
8	91	58	46
9	90	59	46
10	89	60	46
11	88	61	45
12	87	62	45
13	86	63	44
14	85	64	43
15	84	65	43
16	82	66	42
17	81	67	42
18	80	68	42
19	79	69	41
20	77	70	41
21	76	71	41
22	75	72	41
23	74	73	40
24	73	74	40
25	72	75	40
26	71	76	39
27	70	77	39
28	69	78	39
29	68	79	38
30	67	80	38
31	66	81	38
32	65	82	37
33	65	83	37
34	63	84	37
35	62	85	36
36	62	86	36
37	61	87	36
38	59	88	35
39	59	89	35
40	58	90	35
41	57	91	34
42	57	92	34
43	56	93	33
44	56	94	33
45	56	95	33
46	55	96	32
47	54	97	32
48	54	98	32
49	52	99	31
50	51	100	31
		101	30
		102	30

Residential Square Foot Schedules

The schedules in Publication 123 are based on construction costs in the central Illinois area. The values are also based on construction, using average quality materials and workmanship. As discussed earlier, there are various factors that can be applied to adjust Pub-123 to reflect the values in various jurisdictions.

For residential structures, Publication 123 includes base cost schedules for building style and type of construction. When referencing a base cost schedule, it is important to use the appropriate schedule. The base cost schedules include normal construction features, such as a slab foundation, exterior walls, floors, roof, interior finish, central heating, lighting, and average landscaping. They also include the standard five plumbing fixtures: bathroom toilet, basin, tub or shower, kitchen sink, and hot water heater. If you are dealing with construction features other than those included in the base cost schedules, you must make “plus” or “minus” adjustments to the base cost. Pub-123 includes various supplemental schedules to assist in valuing these variances that also indicate whether a plus or minus adjustment to the base price is required.

The residential schedules are used in conjunction with the residential **property record cards (PRCs)**. PRC-1 is used for valuing land, and the PRC-2, is used for the computation of building values. The right column of the PRC-2 is used for computing the full value of the structure. This column is called the “computation ladder.”

Determine the Base Cost of the Structure

Using the base cost schedule on the following page, determine the base cost of the structure. The base cost of the structure is based on the square footage of the ground floor multiplied by the number of stories. The schedules include values for 1-story, 1 ½ story, split-level, 2-story, and 3-story structures. When referring to the schedules, use the combined square footage of all floors. Select the appropriate corresponding story height to determine the value. Looking at the base cost schedule, the left column represents the combined square footage of all floors.

For example, if you have a 2-story wood frame structure with vinyl siding and 1,000 square feet on each floor, find 2,000 square feet in the left column of the base cost schedule for wood frame construction/vinyl siding, and move to the appropriate column under 2-story structure. The base cost of this structure, before adjustments, is $171,760.

Residential	Average Quality	2 Story
Standard design from stock plans 1 Kitchen 1 Full bath No basement Asphalt/Fiberglass Shingles Hot air heat (gas fired) Painted drywall interior Average material and workmanship		

Base cost per square foot of total living area

Total SF	**Wood siding Wood frame**	**Vinyl siding Wood frame**	**Brick veneer Wood frame**	**Stucco Wood frame**	**Concrete Block or Stucco on Block**	**Brick Solid Masonry**
1,000	102,110	101,470	108,300	101,650	106,980	128,890
1,110	110,120	109,000	116,790	109,470	115,620	134,900
1,200	116,290	115,130	123,270	115,560	122,100	143,360
1,300	123,760	122,520	128,160	123,120	129,980	150,450
1,400	130,880	128,260	134,140	129,830	137,550	158,460
1,500	137,420	136,100	143,280	137,390	143,980	171,980
1,600	144,660	144,370	151,180	143,620	151,890	177,170
1,700	151,220	150,530	157,900	150,520	158,960	180,820
1,800	158,820	157,900	164,470	158,180	165,320	193,800
1,900	166,650	164,630	171,820	165,670	173,590	203,140
2,000	173,500	**171,760**	183,490	172,020	183,730	211,350
2,100	180,140	179,680	190,950	179,900	189,330	212,690
2,200	187,550	186,130	198,800	186,770	196,580	218,700
2,300	194,160	193,210	205,810	191,790	203,870	230,760
2,400	201,360	200,250	213,400	198,250	211,890	240,950
2,500	207,670	207,340	220,090	207,130	218,050	246,680
2,600	214,630	214,120	227,230	213,190	225,360	253,790
2,700	220,720	218,510	233,280	219,230	232,030	259,530
2,800	227,560	225,280	240,300	226,300	238,940	267,100
2,900	234,260	231,920	246,510	232,370	246,820	273,620
3,000	239,910	237,510	252,200	238,470	252,740	280,640
3,100	246,640	244,170	259,250	245,410	260,650	286,970
3,200	253,250	250,720	265,910	250,080	267,630	296,660
3,300	257,000	254,890	269,850	253,320	271,850	303,790
3,400	263,360	261,250	276,470	260,080	276,530	309,680
3,500	270,170	267,470	283,680	268,820	283,680	317,800
3,600	275,830	273,070	289,620	272,990	289,620	323,860
3,700	284,270	281,420	298,170	281,160	300,440	335,440
3,800	289,630	286,730	304,110	289,190	302,950	341,470
3,900	294,880	291,930	310,710	292,110	309,620	345,010
Over 4,000	$75.00	$74.25	$79.50	$74.75	$78.75	$88.75

The base price includes the **standard 5 plumbing** fixtures: bathroom toilet, bathroom basin, tub or shower, kitchen sink, and hot water heater. If the structure has more than the standard 5 fixtures, add $1,885 per fixture to the base cost. If you have less than the standard 5 fixtures, a deduction of $1,885 per fixture should be made.

Plumbing (+ or -)		
Per fixture less than standard	Deduct	$1,885
Per fixture greater than standard	Add	$1,885

Quality grade refers to the quality of the material and workmanship. Pub-123 is based on **average** quality improvements. The quality grade for average is "C." If you have a quality other than average, you must apply the appropriate grade factor.

Quality	
Grade	**Factor**
AA	225%
A	150%
B	122%
C	100%
D	82%
E	50%

The base price schedule includes heat. If the structure is **not heated**, a minus adjustment must be made.

Residential No Heat Schedule (-) Always a subtraction						
Total Square foot area	1 Story	1.5 Story	2 Story	Bi-level	Tri-level	2.5 – 3 Story
200	860	860	---	---	---	---
400	1,720	1,720	---	---	---	---
600	2,735	2,735	---	---	---	---
800	3,390	3,390	3,375	3,345	3,425	---
1,000	4,000	4,000	3,980	3,945	4.045	4,110
1,200	4,570	4,545	4,535	4,500	4,620	4,660
1,400	5,105	5,065	5,105	5,085	5,110	5,205
1,600	5,675	5,600	5,640	5,625	5,645	5,795
1,800	6,225	6,265	6,195	6,190	6,120	6,315
2,000	6,825	6,685	6,765	6,720	6,650	7,015
2,200	7,355	7,220	7,315	7,305	7,315	7,705
2,400	7,890	7,695	7,855	7,785	7,655	8,390
2,600	8,445	8,190	8,370	8,330	8,180	8,945
2,800	8,945	8,850	8,875	8,930	8,695	9,525
3,000	9,445	9,290	9,355	9,290	9,135	10,055
3,200	9,925	9,710	9,875	9,775	9,910	10,600
3,400	10,365	10,320	10,270	10,245	10,265	11,190
3,600	10,840	10,800	10,760	10,670	10,805	11,700
3,800	11,410	11,380	11,295	11,165	11,215	12,260
4,000	12,120	11,980	11,700	11,660	11,680	12,620

Central air conditioning is not included in the base price. If the structure is cooled by central air conditioning, a plus adjustment must be made.

Residential Central Air conditioning Schedule (+) *For additions or ells use $2.50 per square foot of service area in the addition. Air Conditioning is always an addition.*						
Total Square foot area	**1 Story**	**1.5 Story**	**2 Story**	**Bi-level**	**Tri-level**	**2.5 – 3 Story**
200	1,200	1,200	1,200	1,200	--------	--------
400	1,200	1,200	1,200	1,200	--------	--------
600	2,020	2,020	2,020	2,020	--------	---------
800	2,500	2,500	2,475	2,500	2,500	2,600
1,000	2,960	2,960	2,925	2,960	2,960	3,165
1,200	3,380	3,360	3,340	3,370	3,380	3,615
1,400	3,780	3,750	3,730	3,765	3,780	4,045
1,600	4,200	4,160	4,140	4,180	4,200	4,495
1,800	4,610	4,520	4,540	4,565	4,610	4,930
2,000	5,050	4,950	4,965	5,000	5,050	5,400
2,200	5,440	5,385	5,330	5,415	5,440	5,820
2,400	5,840	5,830	5,715	5,835	5,840	6,250
2,600	6,250	6,235	6,110	6,245	6,250	6,690
2,800	6,620	6,555	6,460	6,590	6,620	7,085
3,000	6,990	6,850	6,810	6,920	6,990	7,480
3,200	7,345	7,270	7,140	7,310	7,345	7,860
3,400	7,680	7,595	7,465	7,640	7,680	8,215
3,600	8,020	7,860	7,780	7,940	8,020	8,580
3,800	8,445	8,275	8,220	8,360	8,445	9,040
4,000	8,970	8,790	8,700	8,880	8,970	9,600

Fireplaces are not included in the base price. If the structure contains a fireplace, an adjustment must be made for the number of fireplaces and stacks.

Fireplace (+)			
Type	**1 Story**	**2 Story**	**3 Story**
Masonry fireplace & stack	$5,340	$5,950	$6,775
2nd fireplace on same stack	$4,410	$4,915	$5,840
Pre-fab Fireplace	$4,205	$4,700	$5,200

The base price of the dwelling includes the cost of only a **slab** foundation. You must make an adjustment for a dwelling that has either a crawl space or basement area. To use the schedule, calculate the SF area with a foundation other than a concrete slab, and correlate it to the appropriate construction type (crawl or basement).

This schedule is also designed to estimate the cost of finishing a basement into living quarters or a recreation room.

Basement/foundation schedule (+)

Basements: Base cost per area SF. For basement area or crawl space, write the valuation correlating to the proper square footage on the Basement line of PRC-2. For finished area, correlate the square footage of finish and add on Finished basement line on the PRC-2.

	400	600	800	1,000	1,200	1,400	1,600	1,800	2,000	2,400	2,800	3,200	3600	Over 3,600
Crawl space	3,265	4,750	6,375	7,370	8,350	9,410	10,740	10,945	11,904	13,415	14,930	17,050	18,145	5.05
Total unfinished basement area	4,680	6,935	9,000	10,480	12,025	13,500	14,960	16,470	17,980	21,750	24,100	26,400	29,350	8.00
Finished basement living area	5,870	10,355	14,820	16,835	19,750	22,730	25,730	28,680	31,630	36,520	41,805	47,970	49,825	15.20
Finished basement recreation room area	3,995	7,335	9,560	10,870	12,935	13,900	16,090	17,430	19,020	21,390	25,460	28,160	32,210	11.45

Garages

The cost of a garage is not included in the base residence cost. The garage costs include wall surfaces, roof surface when applicable, a concrete floor, doors, and electric lighting. Walls and roof cover are the same as the basic residence. The garages cost table includes attached, detached, and built-in garages. Also included are costs for basement garages and areas over attached or detached garages.

Attached garages share a common wall with the residence and costs include interior finish for only that common or share wall.

Detached garages are freestanding structures with totally independent foundation and roof structures from the residence. There is no interior finish included in the costs.

Built-in garages having area both adjacent to and above. Costs include finish for all common surfaces.

Garages: Base Cost per Square Foot of Area

Garages	Attached			Detached			Built-In	
	1 Car	2 Car	3 Car	1 Car	2 Car	3 Car	1 Car	2 Car
	275-364	484-676	864+	275-364	484-676	864+	275-364	484-676
Vinyl siding on wood stud	33.50	27.30	25.60	37.60	31.50	31.00	27.65	23.75
Wood siding on wood stud	35.50	31.35	31.20	39.45	33.55	31.45	29.30	27.25
Brick veneer on wood stud	38.85	33.05	32.90	44.70	38.25	35.85	32.05	28.75
Stucco on wood on wood stud	34.65	29.30	27.00	39.50	33.25	30.35	28.60	25.50
Solid masonry, brick	40.65	37.60	36.50	48.30	40.15	36.80	33.55	32.70
Basement Garage:	Add lump sums to unfinished basement costs. **1 car: $2,350. 2 car: $3,200**							
Areas over Garage:	If an area over an attached garage is equal to the residence in interior finish, include that area in the total square footage of the residence and price the garage as a built-in. If minimal finish like a bonus room, use 50% of the garage square foot costs. If storage only with high-pitched gable roof, add 20% to the garage costs to cover roof and floor costs.							

Porches are not included in the base cost. If the structure has one or more porches, an addition to the base price must be made. To determine a value, locate the square footage of the porch in the left column and then go to the appropriate construction type in the right columns for the value. If you have more than one porch attached to the structure, price each porch individually. You cannot combine the total square footage for all porches.

Porches (+)						
SFGA	**Open Frame Porch (OFP)**	**Frame Screened-in Porch**	**Knee Wall with Glass**	**Solid Wall Enclosed Frame (EFP)**	**Open Masonry (OMP)**	**Enclosed Masonry (EMP)**
24	1,120	1,905	3,050	2,290	1,225	2,935
50	1,970	2,450	4,720	3,580	2,620	4,225
80	2,945	3,990	6,385	4,870	3,915	5,530
100	3,455	4,545	7,470	5,895	4,415	7,000
120	3,955	5,130	7,975	6,340	5,500	7,420
150	4,940	6,415	9,965	7,930	6,590	9,260
200	6,300	7,825	11,655	9,550	8,445	11,180
250	7,500	9,300	13,540	11,195	9,975	13,055
300	8,620	10,580	15,315	12,685	11,325	14,930
350	9,640	11,725	16,975	14,060	12,670	16,590
400	10,460	12,600	18,430	15,265	14,000	18,010
500	12,350	14,960	21,885	18,125	16,425	21,390
600	13,950	17,060	24,950	20,665	18,830	24,385
700	15,535	19,020	26,645	22,900	20,815	25,755
750	15,810	19,365	27,650	23,310	21,025	27,105
800	16,025	19,615	28,425	23,625	21,315	28,445
900	17,190	20,970	32,220	25,245	23,030	27,105
1,000	18,150	22,140	34,010	26,650	25,160	28,445

Occasionally, structures will feature brick, stone, or artificial stone as trim accenting a portion of the structure. If there is **partial masonry trim** on the structure, an addition to the base price must be made. The amount of the adjustment would reflect the type of material used and the quality grade of the material.

Partial masonry trim (+) Per SF of surface area				
Quality	**A**	**B**	**C**	**D**
Brick	$17.60	$14.35	$11.75	$9.65
Stone	44.10	35.85	30.60	25.30
Artificial Stone	19.00	15.45	12.60	10.35

The **paving** schedule is used to value sidewalks, driveways, etc. The amount of the addition is determined by the type of material used. Values are indicated for crushed stone, concrete, and asphalt. To determine the amount of the addition, multiply the square footage of the paved area times the indicated value.

Paving (+)	
Crushed stone	$0.65/SF
Concrete	4.90/SF
Asphalt	2.90/SF

Stoops, decks, and patios are not included in the base price, so an addition must be made. To determine the value, multiply the square footage of the structure times the indicated value.

Stoop, decks, patios (+/-)	
Stoop – masonry	$26.90/SF
Deck – wood, elevated	17.35/SF
If no stairs, deduct	5.75/SF
If no railing, deduct	1.75/SF
Patio – concrete	6.35/SF
Patio – brick (In sand)	13.20/SF

Interpolation

Interpolation is the process of estimating a missing value by taking a weighted average of known functional values at neighboring points. It is a way to calculate a more exact value than can be found directly from tables.

Steps to Interpolate

1. Find the square footage (sf) above and below your number. Write down those numbers as well as the values associated with them.
2. Subtract the low number from the high number for both the square footage and the value.
3. Divide the value by the difference in square footage. This is your price per square foot.
4. Subtract your square footage from the low square footage.
5. Multiply the result by the price per square foot found in Step 3.
6. Add the result to lower value you wrote in Step 1.

Example

- Home is a one-story house with 900 square foot and has Central Air Conditioning.
- Central Air Cost Schedule provides figures for 800 sf and 1,000 sf.
- Interpolate to find the addition for Central Air for our 900 sf house.

Steps 1 & 2:

1,000	=	$2,960
- 800	=	$2,500
200		**$ 460**

Step 3:

460 / 200 = $2.30 per sq. ft.

Step 4:

900 - 800 = 100

Step 5:

$2.30 X 100 = $230

Step 6:

$2,500 + $230 = $2,730

REL Depreciation Tables

As discussed earlier, the condition, desirability, and utility of the property are factored in by using various CDU ratings. Structures can be rated excellent, good, average, poor, or unsound. The actual age of the structure and the CDU rating produce the effective age of a property. The effective age of the property determines the remaining economic life (REL) factor, which is applied to the RCN of a structure to adjust for depreciation.

REL + depreciation = 100% of the value.

The Residential REL Depreciation Tables are used to determine the REL factor. Looking at Schedule A, the left column reflects the actual age of the structure based on the construction date. Once you locate the actual age, move to the right to the appropriate column and find the effective age based on the CDU rating assigned to the property. Once you determine the effective age of the property, move to Schedule B. The left column of Schedule B lists the effective age, and the number next to it is the REL factor that is used to adjust the value in the computation ladder.

Residential REL Table

Schedule A													Schedule B			
	Effective Age						Effective Age						Eff.		Eff.	
Age	E	G	A	P	U	Age	E	G	A	P	U		Age	REL	Age	REL
1	1	1	1	14	27	51	32	42	51	66	76		1	99	51	51
2	1	1	2	15	28	52	32	43	52	67	77		2	97	52	50
3	1	2	3	16	29	53	33	44	53	68	78		3	96	53	49
4	1	2	4	16	30	54	33	44	54	68	78		4	95	54	48
5	1	3	5	17	31	55	33	45	55	69	80		5	94	55	47
6	2	4	6	17	32	56	34	46	56	70	81		6	93	56	47
7	2	5	7	18	33	57	34	47	57	71	82		7	92	57	47
8	2	6	8	19	34	58	35	48	58	72	83		8	91	58	46
9	2	6	9	20	35	59	35	48	59	72	83		9	90	59	46
10	2	7	10	21	38	60	36	49	60	73	83		10	89	60	46
11	3	7	11	22	39	61	37	50	61	73	85		11	88	61	45
12	3	8	12	23	39	62	38	50	62	74	86		12	87	62	45
13	3	9	13	24	40	63	39	51	63	74	86		13	86	63	44
14	4	10	14	24	40	64	40	52	64	76	88		14	85	64	43
15	4	11	15	25	40	65	42	53	65	78	90		15	84	65	43
16	4	12	16	26	43	66	42	53	66	78	91		16	82	66	42
17	4	13	17	30	45	67	43	55	67	80	93		17	81	67	42
18	5	14	18	31	46	68	44	58	68	84	97		18	80	68	42
19	5	15	19	31	46	69	45	59	69	86	100		19	79	69	41
20	6	16	20	32	47	70	46	60	70	88	102		20	77	70	41
21	8	16	21	33	48								21	76	71	41
22	10	17	22	33	48								22	75	72	41
23	10	18	23	34	49								23	74	73	40
24	11	19	24	35	50								24	73	74	40
25	11	20	25	35	50								25	72	75	40
26	12	21	26	36	51								26	71	76	39
27	12	22	27	38	52								27	70	77	39
28	13	23	28	38	52								28	69	78	39
29	13	24	29	39	53								29	68	79	38
30	13	25	30	40	54								30	67	80	38
31	14	25	31	40	54								31	66	81	38
32	15	26	32	42	56								32	65	82	37
33	16	27	33	44	59								33	65	83	37
34	17	28	34	46	60								34	63	84	37
35	18	29	35	47	61								35	62	85	36
36	19	30	36	48	62								36	62	86	36
37	20	31	37	50	64								37	61	87	36
38	21	31	38	51	64								38	59	88	35
39	22	32	39	53	65								39	59	89	35
40	23	33	40	54	66								40	58	90	35
41	24	34	41	55	67								41	57	91	34
42	25	35	42	56	67								42	57	92	34
43	25	36	43	57	68								43	56	93	33
44	26	38	44	59	69								44	56	94	33
45	27	39	45	60	70								45	56	95	33
46	28	39	46	60	70								46	55	96	32
47	29	40	47	61	70								47	54	97	32
48	30	40	48	62	71								48	54	98	32
49	31	41	49	64	73								49	52	99	31
50	32	41	50	65	75								50	51	100	31
															101	30
															102	30

Summary

The purpose of **mass appraisal** is to produce equitable and efficient appraisals of all property in a jurisdiction for *ad valorem* tax purposes.

Mass appraisal systems provide quickly obtainable value estimates with reasonable substantiation in the records. A mass appraisal system should incorporate all three approaches to value, but most systems are primarily based on the cost approach.

A cost factor is designed to adjust the Pub-123 **replacement cost new (RCN)** value to reflect the local cost of labor and materials.

The **quality grade** represents quality of construction, workmanship, and material used in a project. The quality of workmanship and materials can greatly affect cost.

To determine a **design factor**, the assessor has to determine the percentage increase, or decrease, in cost due to the design features. The design factor is handled in the same manner as a quality grade factor; it is assigned to individual properties and should remain unchanged during the life of the structure.

The **remaining economic life (REL) factor** is applied to the true RCN to arrive at the full market value, which then reflects the adjustment made for depreciation.

Unit 3 Review Questions

1. What type of quality does the quality grade factor “D” represent, and what is the factor applied from the schedules?

   _____

2. A local assessor notices that an improvement has been greatly neglected and its physical condition is extremely poor. He or she notes that this particular improvement was originally built with excellent materials and workmanship. Which one of the following will the assessor adjust?

   _____ Cost

   _____ Quality Grade

   _____ CDU rating used to determine the REL factor

3. Quality grade refers to the _____

4. **T or F** PRC-2 is used for calculating land values.

5. **T or F** Air Conditioning is included in the base cost on the cost schedules for residential assessment purposes.

6. List the five plumbing fixtures that are included in the base cost on the residential cost schedules for assessment purposes.

Unit 4

Using Residential Square Foot Schedules

This unit covers the application of the residential square foot schedules in the valuation of residential properties.

The purpose of this unit is to provide a basic understanding of the use of the schedules. Following this segment, you will be able to arrive at a value for simple residential properties using the cost approach.

Learning Objectives

After completing the assigned readings, you should be able to

- identify the pertinent construction specifications found on the property record card, PRC-2.
- determine the square foot of ground area.
- determine the base cost for a residential structure.
- determine appropriate adjustments to the base cost price.
- arrive at a correct estimate of market value by using the residential square foot schedules.
- understand and use a remaining economic life (REL) depreciation table.

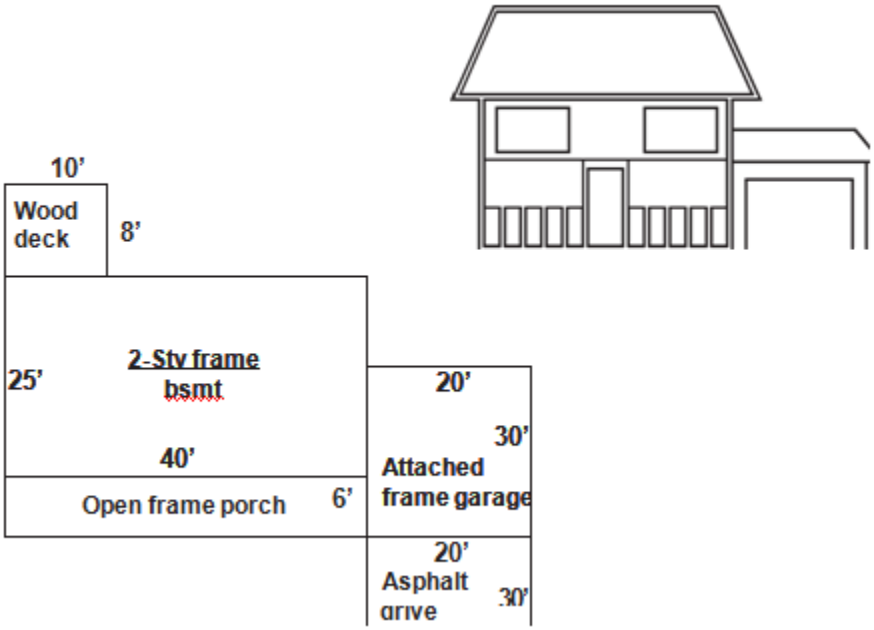
Key Terms and Concepts

- Base Price
- Full Price

Computing the Value of a Structure

The subject property is a 10-year old, 2-story wood frame structure with 8 rooms, including 4 bedrooms and a family room.

The foundation is 8" masonry — there is a full basement, unfinished — the dwelling has central warm air heat and central air conditioning — plumbing consists of the standard 5 plumbing fixtures, plus an additional full bath and a separate half-bath (2 fixtures) — exterior walls are covered with vinyl siding with 300 square feet of common-stone trim, grade “C,” across the front — the roof is covered with asphalt shingles — the basement floor is concrete and the first and second floors are covered with tile and carpet — the interior finish is drywall on the first and second floors — there is one masonry fireplace — the structure has an attached 600 square foot frame 2-car garage with vinyl siding, with a 600 square foot asphalt drive — there is an 80 square foot wood deck with stairs and railings on the rear of the structure — the property has a CDU of “average,” and quality grade “C.”



The entire PRC-2 for this property is on the next page. Refer to the computation ladder and the corresponding line numbers as you go through this line-by-line example.

Building Record - Residential - Rural (Property - Type 1)

Occupancy

1 Vacant Lot	2 Dwelling	3 Other	4 Mobile Home	5 A Frame	6 Summer Home	7 Apt.

Living Accommodations

Total Rooms	Bedrooms	Family Room
8	4	1

Foundation

8" Msy. Wall — Pier

Basement

1 Full	3 Crawl	4 Slab

Area without bsmt. — SF

Heating

1 None	2 Central	3 Air Condition	4 Other
Warm air			X
Hot water/Steam			
Floor furnace			
Unit heaters			
Other			

Plumbing

Standard (5)	X
Bathroom (3)	X
Half bath (2)	X
Sink/Lavatory water closet	

Attic

1 None	2 Unfinished	3 Part	4 Full

% finished

Exterior Walls

Wood/stucco/aluminum/vinyl siding	X
Concrete block	
Brick/stone	X
Other	

Roof

Shingle - asphalt/asbestos/wood	X
Slate/tile	
Composition	
Other	

Floors

	B	1	2	3	
Concrete	X				
Wood					
Tile		X	X		
Carpet		X	X		

Interior Finish

	B	1	2	3	
Plaster/dry wall		X	X		
Fiberboard					
Paneling					

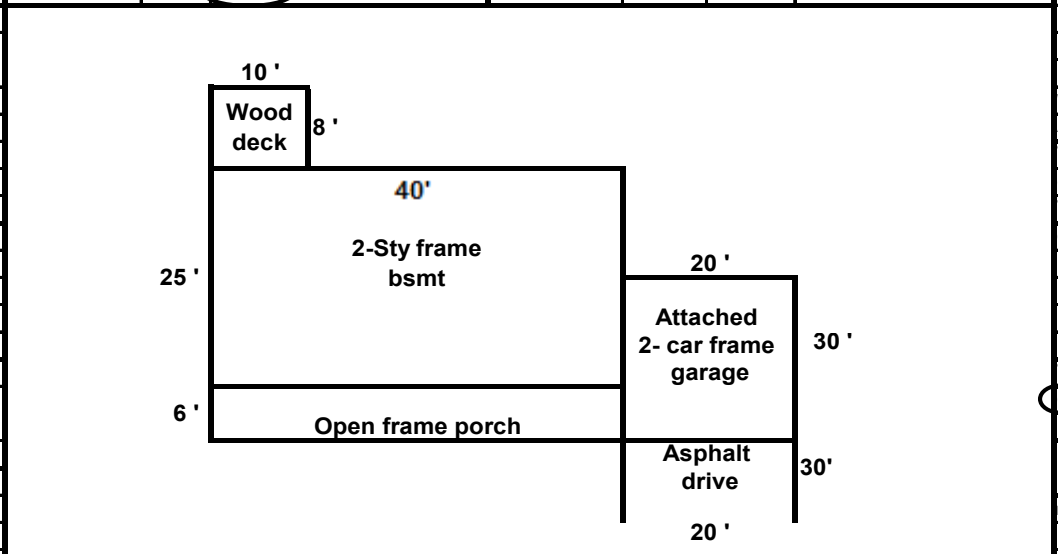
Features	SF	Quality	Type
Pt. Msy Trim	300	C	Brk[1] Stone[2] Art[3]
Finished			Living
Basement			Recreation
Fireplaces	# 1	masonry	Stacks # 1
Integral garage		On grade[1]	Below[2]
Attached garage	600	Frm1	Msy.2 Carport3

Remodeled — Sold Date Mo. Day Yr.

NH — Amount $

Memo

Condo. Comm.	Porch	240 SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]
Prorated %	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]
With:	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]
	Wd. deck	80 SF	Wood deck[6]



Age 10	Adj. Age	
CDU Average		
Grade C		
Dwelling Computations		
2 Sty. FRM Constr.		1000 SF
Sty. Constr.		SF
1000x2=2000 SF		171,760
Basement-unfinished		+10,480
Heating/Central air		+ 4,965
Sched. Comb.		
Plumbing + 5		+ 9,425
Attic		
Porches 240 OFP		+ 7,500
Wood deck		+ 1,388
Attach./Integral garage +		+ 16,380
Total		221,898
Grade C		1.0
Total		221,898
Other features		
Pt. msy. Walls 300 x 30.6		+ 9,180
Fireplace		+ 5,950
Finished basement		
Total		237,028
C x D		1.06
NH x AP		
Replacement cost new		251,250
Eff. Age 10	REL	
Depr. 11%	89%	0.89
S C M I	Full Value	223,613

Summary of Other Buildings

Type	No.	Construction	Size	Rate	Grade	Age	CDU	Factor	Repl. Cost new	REL	Full Value
Garage (detached)		Frm[1] Msy.[2] Carport[3]									
Drive	1	Asphalt	600	2.9	1.0	10 yrs	Avg	1.06	1,844	0.89	1,641

Listed by: — Total full value other buildings 1,641

Date: — Total full value all buildings 225,254

Property Record - Residential - Rural

Ownership & Mailing Address

Township	Volume	Tax Code	Area	Sect.	Block	Parcel	Unit
			03	32	207	021	0040

Property Class	Land Use	Zoning	NH Code	Card No. of	Condo. Comm.

Record of Ownership	Date	Deed Stamps	Sale Price

Property Address

Street		Nghbhd.		Utilities		Topo.		Division
Private Rd.		Improved	X	Water	X	Level		
Cul-de-sac	X	Static		Sewer	X	High		
Alley		Decline		Gas	X	Low		
Traffic Lt.		Blighted		Electric	X	Rolling	X	
Traffic Hvy.						View		

Land Computations

Unit Type	No. Units	Depth	Unit Value	D. Fac.	I. Fac.	Full Value
FF	100 '	200 '	$300/FF	1.00		$30,000

Building Permit Record

Date	Number	Amount	Yr. Assessed	N/C	P/U Year	Purpose

Roll Backs

Year	Unit	Unit Value	Full Value	App. File	Year	Unit	Unit Value	Full Value	App. File

Summary of Assessed Values

	Orig. Asmt.: Year:			Rev. by: Year:			Rev. by: Year:			Rev. by: Year:		
	Full Value	Asmt. Level	Assessed Value	Full Value	Asmt. Level	Assessed Value	Full Value	Asmt. Level	Assessed Value	Full Value	Asmt. Level	Assessed Value
Land												
Bldgs.												
Total												
	Rev. by: Year:			Rev. by: Year:			Rev. by: Year:			Rev. by: Year:		
	Full Value	Asmt. Level	Assessed Value	Full Value	Asmt. Level	Assessed Value	Full Value	Asmt. Level	Assessed Value	Full Value	Asmt. Level	Assessed Value
Land												
Bldgs.												
Total												
	Rev. by: Year:			Rev. by: Year:			Rev. by: Year:			Rev. by: Year:		
	Full Value	Asmt. Level	Assessed Value	Full Value	Asmt. Level	Assessed Value	Full Value	Asmt. Level	Assessed Value	Full Value	Asmt. Level	Assessed Value
Land												
Bldgs.												
Total												

1. The structure is 10 years old, so 10 is written on the **Age** line.

2. The **CDU** is listed as "average."

3. The **Quality grade** is listed as "C."

4. The dwelling is a 2-story, wood frame/vinyl siding structure with 1,000 square feet on the ground floor. (2 story x 1,000 square feet = 2,000)

5. Looking at the **Base cost schedule – wood frame/vinyl siding construction,** the base price is $171,760.

6. The structure has an unfinished basement. You must make a plus adjustment of $10,480 for the 1,000 square foot basement.

7. The structure is heated, so no adjustment is necessary for heat. However, the structure has central air conditioning. Since air conditioning is not included in the base price, you must make a plus adjustment. Look at the **Central air conditioning schedule** – a 2-story structure with 2,000 square feet requires a plus adjustment of $4,965.

8. In addition to the standard 5 plumbing figures, there is an additional bathroom and a toilet room, so a plus adjustment for 5 additional fixtures is required. Reference the **Plumbing schedule** – the appropriate adjustment is $1,885 per fixture, or a plus $9,425 (5 x $1,885).

9. No adjustment is needed since there is no attic.

10. The listing indicated 1 "open frame porch," which is 240 square feet. Refer to the **Porch schedule** – the value for a 250 square foot open frame porch is $7,500. Since no value is given for 240 square feet, choose the **closest** listed footage.

11. The next addition needed is for an 80 square foot wood deck with **stairs** and **railings**. Looking at the schedules for **Decks** – the base price is $17.35 per square foot. To arrive at a value, take 80 SF x $17.35 = $1,388.

12. There is a 600 square foot 2 car attached frame garage with vinyl siding. Look at the **Garage schedule** – the base price is $27.30 per square foot. A plus $16,380 adjustment is required.

13. The base cost of $171,760 and the adjustments made so far (for the basement, central air conditioning, plumbing, a porch, a deck, and attached garage) are totaled to arrive at $221,898.

14. The next line refers to the quality grade. The quality grade for this structure is "C". Looking at the schedule for **Quality** – the factor for "C" is 100 percent. Since the grade is "C", or average quality construction, the values are not affected. Particular attention should always be paid to the factor assigned; any grade other than "C" will produce a factor other than 100 percent and change the value.

15. Taking 100 percent (1.00) times $221,898, the value remains $221,898.

16. It should be noted that in the first part of the computation ladder, a quality grade factor of 1.00 was applied to the adjusted base price. However, in the items listed in the next portion of the ladder, individual quality grades for each feature must be considered when selecting the amount of adjustments.

17. The property has 300 square feet of common stone trim, grade "C." Looking at the schedule for **Partial masonry trim,** find "stone" and grade "C" – the value is $30.60. Taking 300 square feet x $30.60 produces a value of $9,180 to add to the cost.

18. The structure contains 1 masonry fireplace. Referencing the **Fireplace schedule** – the value for a fireplace and stack for a 2-story dwelling is $5,950.

19. There are no more adjustments to make to the computation ladder at this point. Adding the adjusted base price of $221,898 to the value of the trim and fireplace results in a total of $237,028.

20. As stated earlier, the values in Publication 123 are for the central Illinois area. From the cost factor study conducted earlier, this property is in an area where construction costs run about 6 percent higher. Therefore, you must use the cost factor of 106 percent to obtain accurate values for this jurisdiction.

21. When the adjusted value of $237,028 is multiplied by 106 percent (1.06), the resulting value of $251,250 is the RCN of this structure.

22. Since the structure is 10 years old, the RCN must be adjusted for any depreciation that has occurred. Going to **Schedule A** of the **Residential REL Depreciation Tables** – a 10-year-old structure with a CDU of "average" has an effective age of 10. On **Schedule B**, an effective age of 10 indicates an REL factor of 89 percent. This property has depreciated 11 percent (REL + depreciation = 100 percent).

23. Taking 89 percent (.89) of the RCN of $251,250 produces a full value of $223,613 for this structure today.

24. The listing also indicates that there is a 600 square foot asphalt driveway. Reference the **Paving schedule** – the price per square foot of paved area is $2.90. To arrive at a value, take 600 SF x $2.90 = $1,740 x 1.00 (quality grade) = $1,740 x 1.06 (cost factor) = $1,844 (RCN). $1,844 (RCN) x .89 (REL) = $1,641 full value.

25. The value for the asphalt drive is $1,641 and this becomes the full value of the other buildings.

26. The final step is adding $1,641, the full value of other buildings, to $223,613, the full value of the dwelling, which results in a full value of $225,254 for all buildings.

Classroom Exercises

The cost factor of 1.06, developed in Unit 2, Exercise 2-1, will be used for all three of the following exercises. Use the cost factor of 1.06 only for these exercises. Do not use this cost factor on your exam unless you are instructed to do so.

Note: The residential PRC (PRC-2) on your exam will not have a narrative description attached as they do in Exercises 4-1 through 4-3. It is important that you study the PRCs in this segment to ensure that you can correctly interpret the specifications of the property based on the items checked on the cards. You will encounter one residential PRC (PRC-2) on your exam.

Residential	Average quality	1-Story
Standard design from stock plans 1 Kitchen 1 Full bath No basement Asphalt/Fiberglass shingles Hot air heat (gas fired) Painted drywall interior Average material and workmanship		

Base cost per SF of total living area

Total SF	Wood siding Wood frame	Vinyl siding Wood frame	Brick veneer Wood frame	Stucco Wood frame	Concrete blk. or stucco on blk.	Brick Solid masonry
600	70,070	69,370	74,130	70,550	73,570	86,890
700	78,900	78,110	83,470	79,990	82,840	97,640
800	86,900	86,030	91,940	88,660	91,240	107,320
900	95,000	94,050	100,510	97,330	99,570	117,090
1,000	102,500	101,470	108,840	106,810	108,440	126,080
1,100	110,070	108,970	117,150	114,610	116,230	135,110
1,200	117,140	115,970	125,460	123,470	123,460	143,490
1,300	124,250	123,000	133,530	128,990	130,710	151,900
1,400	130,950	129,640	141,590	135,660	137,500	159,760
1,500	138,180	136,800	149,920	142,130	144,950	168,580
1,600	145,560	144,100	158,240	148,180	151,380	177,220
1,700	152,080	150,560	166,510	155,730	158,160	184,400
1,800	159,640	158,040	174,770	163,090	166,660	193,960
1,900	167,650	165,980	183,020	170,310	174,350	204,110
2,000	175,000	173,250	191,260	177,340	182,000	212,620
2,100	181,500	179,680	198,980	184,500	188,580	220,340
2,200	188,540	186,650	206,700	191,490	195,800	228,700
2,300	195,290	193,330	214,430	198,240	202,710	236,690
2,400	202,270	200,250	222,150	208,510	209,860	244,950
2,500	209,470	207,370	229,830	211,510	217,220	253,670
2,600	216,500	214,330	237,500	218,230	224,190	261,970
2,700	222,940	220,710	245,180	224,820	230,740	269,530
2,800	229,350	227,060	252,860	234,300	237,370	277,080
2,900	235,860	233,500	260,420	237,680	243,990	283,620
3,000	242,220	239,800	267,970	244,040	250,460	290,660
3,100	247,840	245,360	275,510	250,310	256,510	296,790
3,200	254,530	251,980	283,040	258,540	263,440	303,790
3,300	259,150	256,560	288,720	261,470	267,700	309,680
3,400	265,840	263,180	294,390	264,400	274,340	317,680
3,500	270,690	267,980	300,070	271,390	280,160	322,800
3,600	277,950	275,170	305,750	278,370	286,290	329,860
Over 3,600	77.00	76.20	84.00	76.60	79.30	91.60

Residential	Average quality	1.5-Story
Standard design from stock plans 1 Kitchen 1 Full bath No basement Asphalt/Fiberglass shingles Hot air heat (gas fired) Painted drywall interior Average material and workmanship		

Base cost per SF of total living area

Total SF	Wood siding Wood frame	Vinyl siding Wood frame	Brick veneer Wood frame	Stucco Wood frame	Concrete blk. or stucco on blk.	Brick Solid masonry
600	70,180	69,470	74,390	69,830	73,690	87,020
700	80,080	79,280	84,890	79,680	84,040	96,800
800	86,930	86,060	92,150	86,500	91,280	105,190
900	95,040	94,180	100,650	94,560	99,790	115,000
1,000	102,520	101,600	108,570	101,990	107,640	124,050
1,100	110,870	109,890	117,410	110,320	116,300	134,150
1,200	116,490	115,550	123,490	116,140	122,120	141,230
1,300	123,060	121,700	130,060	122,320	128,220	148,750
1,400	129,880	127,200	135,930	127,840	134,630	155,460
1,500	137,420	137,100	146,460	137,870	145,210	167,660
1,600	143,570	142,130	151,750	142,710	150,320	175,280
1,700	154,580	152,030	163,390	153,810	161,000	181,500
1,800	160,670	158,740	169,670	159,700	168,380	191,800
1,900	166,050	165,060	176,420	166,060	174,910	202,700
2,000	171,370	167,940	180,970	170,510	179,250	209,350
2,100	178,940	176,610	188,780	176,990	187,170	213,690
2,200	185,080	182,670	195,260	183,290	193,410	219,240
2,300	190,710	189,030	201,200	189,870	200,250	228,470
2,400	197,260	195,290	207,910	196,690	207,120	236,710
2,500	204,910	202,040	215,980	202,590	214,440	244,890
2,600	210,040	207,100	221,380	208,880	219,490	252,050
2,700	220,450	217,580	232,130	216,820	230,150	259,540
2,800	226,970	224,250	239,110	225,060	237,180	267,100
2,900	232,910	230,350	245,330	231,810	243,270	276,620
3,000	238,260	234,450	250,890	237,100	248,980	281,640
3,100	243,470	239,530	256,640	241,880	255,640	287,290
3,200	248,950	244,840	261,900	247,210	261,400	294,760
3,300	257,300	252,930	270,680	254,210	270,170	301,040
3,400	264,610	259,580	278,260	261,430	277,840	309,590
3,500	270,400	265,580	284,190	266,340	283,920	316,370
3,600	276,890	274,670	291,010	271,350	290,690	323,860
Over 3,600	76.80	76.05	80.65	75.30	79.90	89.25

Residential	Average quality	2-Story
Standard design from stock plans 1 Kitchen 1 Full bath No basement Asphalt/Fiberglass shingles Hot air heat (gas fired) Painted drywall interior Average material and workmanship		

Base cost per SF of total living area

Total SF	Wood siding Wood frame	Vinyl siding Wood frame	Brick veneer Wood frame	Stucco Wood frame	Concrete blk. or stucco on blk.	Brick Solid masonry
1,000	102,110	101,470	108,300	101,650	106,980	128,890
1,110	110,120	109,000	116,790	109,470	115,620	134,900
1,200	116,290	115,130	123,270	115,560	122,100	143,360
1,300	123,760	122,520	128,160	123,120	129,980	150,450
1,400	130,880	128,260	134,140	129,830	137,550	158,460
1,500	137,420	136,100	143,280	137,390	143,980	171,980
1,600	144,660	144,370	151,180	143,620	151,890	177,170
1,700	151,220	150,530	157,900	150,520	158,960	180,820
1,800	158,820	157,900	164,470	158,180	165,320	193,800
1,900	166,650	164,630	171,820	165,670	173,590	203,140
2,000	173,500	171,760	183,490	172,020	183,730	211,350
2,100	180,140	179,680	190,950	179,900	189,330	212,690
2,200	187,550	186,130	198,800	186,770	196,580	218,700
2,300	194,160	193,210	205,810	191,790	203,870	230,760
2,400	201,360	200,250	213,400	198,250	211,890	240,950
2,500	207,670	207,340	220,090	207,130	218,050	246,680
2,600	214,630	214,120	227,230	213,190	225,360	253,790
2,700	220,720	218,510	233,280	219,230	232,030	259,530
2,800	227,560	225,280	240,300	226,300	238,940	267,100
2,900	234,260	231,920	246,510	232,370	246,820	273,620
3,000	239,910	237,510	252,200	238,470	252,740	280,640
3,100	246,640	244,170	259,250	245,410	260,650	286,970
3,200	253,250	250,720	265,910	250,080	267,630	296,660
3,300	257,000	254,890	269,850	253,320	271,850	303,790
3,400	263,360	261,250	276,470	260,080	276,530	309,680
3,500	270,170	267,470	283,680	268,820	283,680	317,800
3,600	275,830	273,070	289,620	272,990	289,620	323,860
3,700	284,270	281,420	298,170	281,160	300,440	335,440
3,800	289,630	286,730	304,110	289,190	302,950	341,470
3,900	294,880	291,930	310,710	292,110	309,620	345,010
Over 4,000	75.00	74.25	79.50	74.75	78.75	88.75

Plumbing (±)		
Per fixture less than standard...		
	Deduct	$1,885
Per fixture greater than standard...		
	Add	$1,885

Quality	
Grade	Factor
AA	225%
A	150%
B	122%
C	100%
D	82%
E	50%

Fireplace (+)			
Type	1 story	2 story	3 story
Masonry Fireplace & stack	$5,340	$5,950	$6,775
2nd fireplace on same stack	$4,410	$4,915	$5,840
Pre-fab Fireplace	$4,205	$4,700	$5,200

Partial masonry trim (+) Per SF of surface area				
Quality	A	B	C	D
Brick	$17.60	$14.35	$11.75	$9.65
Stone	44.10	35.85	30.60	25.30
Artificial Stone	19.00	15.45	12.60	10.35

Paving (+)	
Crushed stone	$0.65/SF
Concrete	4.90/SF
Asphalt	2.90/SF

Residential central air conditioning schedule (+)

For additions or ells use $2.50 per SF of service area in the addition. Air conditioning is always an addition.

Total SF area	1-Story	1.5-Story	2-Story	Bi-level	Tri-level	2.5 – 3-Story
200	1,200	1,200	1,200	1,200	--------	--------
400	1,200	1,200	1,200	1,200	--------	--------
600	2,020	2,020	2,020	2,020	--------	--------
800	2,500	2,500	2,475	2,500	2,500	2,600
1,000	2,960	2,960	2,925	2,960	2,960	3,165
1,200	3,380	3,360	3,340	3,370	3,380	3,615
1,400	3,780	3,750	3,730	3,765	3,780	4,045
1,600	4,200	4,160	4,140	4,180	4,200	4,495
1,800	4,610	4,520	4,540	4,565	4,610	4,930
2,000	5,050	4,950	4,965	5,000	5,050	5,400
2,200	5,440	5,385	5,330	5,415	5,440	5,820
2,400	5,840	5,830	5,715	5,835	5,840	6,250
2,600	6,250	6,235	6,110	6,245	6,250	6,690
2,800	6,620	6,555	6,460	6,590	6,620	7,085
3,000	6,990	6,850	6,810	6,920	6,990	7,480
3,200	7,345	7,270	7,140	7,310	7,345	7,860
3,400	7,680	7,595	7,465	7,640	7,680	8,215
3,600	8,020	7,860	7,780	7,940	8,020	8,580
3,800	8,445	8,275	8,220	8,360	8,445	9,040
4,000	8,970	8,790	8,700	8,880	8,970	9,600

Basement/foundation schedule (+)

Basements: Base cost per area SF. For basement area or crawl space, write the valuation correlating to the proper square footage on the Basement line of PRC-2. For finished area, correlate the square footage of finish and add on Finished basement line on the PRC-2.

	400	600	800	1,000	1,200	1,400	1,600	1,800	2,000	2,400	2,800	3,200	3600	Over 3,600
Crawl space	3,265	4,750	6,375	7,370	8,350	9,410	10,740	10,945	11,904	13,415	14,930	17,050	18,145	5.05
Total unfinished basement area	4,680	6,935	9,000	10,480	12,025	13,500	14,960	16,470	17,980	21,750	24,100	26,400	29,350	8.00
Finished basement living area	5,870	10,355	14,820	16,835	19,750	22,730	25,730	28,680	31,630	36,520	41,805	47,970	49,825	15.20
Finished basement recreation room area	3,995	7,335	9,560	10,870	12,935	13,900	16,090	17,430	19,020	21,390	25,460	28,160	32,210	11.45

Garages

The cost of a garage is not included in the base residence cost. The garage costs include wall surfaces, roof surface when applicable, a concrete floor, doors, and electric lighting. Walls and roof cover are the same as the basic residence. The garages cost table includes attached, detached, and built-in garages. Also included are costs for basement garages and areas over attached or detached garages.

Attached garages share a common wall with the residence and costs include interior finish for only that common or share wall.

Detached garages are freestanding structures with totally independent foundation and roof structures from the residence. There is no interior finish included in the costs.

Built-in garages having area both adjacent to and above. Costs include finish for all common surfaces.

Garages: Base cost per SF of area

Garages	Attached			Detached			Built-in	
	1 Car	2 Car	3 Car	1 Car	2 Car	3 Car	1 Car	2 Car
	275-364	484-676	864+	275-364	484-676	864+	275 – 364	484 - 676
Vinyl siding on wood stud	33.50	27.30	25.60	37.60	31.50	31.00	27.65	23.75
Wood siding on wood stud	35.50	31.35	31.20	39.45	33.55	31.45	29.30	27.25
Brick veneer on wood stud	38.85	33.05	32.90	44.70	38.25	35.85	32.05	28.75
Stucco on wood on wood stud	34.65	29.30	27.00	39.50	33.25	30.35	28.60	25.50
Solid masonry, brick	40.65	37.60	36.50	48.30	40.15	36.80	33.55	32.70
Basement garage	Add lump sums to unfinished basement costs. 1 car: $2,350 2 car: $3,200							
Areas over garage	If an area over an attached garage is equal to the residence in interior finish, include that area in the total square footage of the residence and price the garage as a built-in. If minimal finish like a bonus room, use 50% of the garage SF costs. If storage only with high-pitched gable roof, add 20% to the garage costs to cover roof and floor costs.							

Porches (+)

SFGA	Open frame porch	Frame screened-in porch	Knee wall with glass	Solid wall enclosed frame	Open mason porch	Enclosed masonry porch
24	1.120	1,905	3,050	2,290	1,225	2,935
50	1,970	2,450	4,720	3,580	2,620	4,225
80	2,945	3,990	6,385	4,870	3,915	5,530
100	3,455	4,545	7,470	5,895	4,415	7,000
120	3,955	5,130	7,975	6,340	5,500	7,420
150	4,940	6,415	9,965	7,930	6,590	9,260
200	6,300	7,825	11,655	9,550	8,445	11,180
250	7,500	9,300	13,540	11,195	9,975	13,055
300	8,620	10,580	15,315	12,685	11,325	14,930
350	9,640	11,725	16,975	14,060	12,670	16,590
400	10,460	12,600	18,430	15,265	14,000	18,010
500	12,350	14,960	21,885	18,125	16,425	21,390
600	13,950	17,060	24,950	20,665	18,830	24,385
700	15,535	19,020	26,645	22,900	20,815	25,755
750	15,810	19,365	27,650	23,310	21,025	27,105
800	16,025	19,615	28,425	23,625	21,315	28,445
900	17,190	20,970	32,220	25,245	23,030	27,105
1,000	18,150	22,140	34,010	26,650	25,160	28,445

Stoop, decks, patios (+)

Stoop — masonry	1 riser	$26.90/SF	2 risers	$35/SF
Deck — wood, elevated			17.35/SF	
If no stairs, deduct			5.75/SF	
If no railing, deduct			1.75/SF	
Patio — concrete			6.35/SF	
Patio — brick in sand			13.20/SF	

Residential REL Table

Schedule A

Age	Effective Age E	G	A	P	U	Age	Effective Age E	G	A	P	U
1	1	1	1	14	27	51	32	42	51	66	76
2	1	1	2	15	28	52	32	43	52	67	77
3	1	2	3	16	29	53	33	44	53	68	78
4	1	2	4	16	30	54	33	44	54	68	78
5	1	3	5	17	31	55	33	45	55	69	80
6	2	4	6	17	32	56	34	46	56	70	81
7	2	5	7	18	33	57	34	47	57	71	82
8	2	6	8	19	34	58	35	48	58	72	83
9	2	6	9	20	35	59	35	48	59	72	83
10	2	7	10	21	38	60	36	49	60	73	83
11	3	7	11	22	39	61	37	50	61	73	85
12	3	8	12	23	39	62	38	50	62	74	86
13	3	9	13	24	40	63	39	51	63	74	86
14	4	10	14	24	40	64	40	52	64	76	88
15	4	11	15	25	40	65	42	53	65	78	90
16	4	12	16	26	43	66	42	53	66	78	91
17	4	13	17	30	45	67	43	55	67	80	93
18	5	14	18	31	46	68	44	58	68	84	97
19	5	15	19	31	46	69	45	59	69	86	100
20	6	16	20	32	47	70	46	60	70	88	102
21	8	16	21	33	48						
22	10	17	22	33	48						
23	10	18	23	34	49						
24	11	19	24	35	50						
25	11	20	25	35	50						
26	12	21	26	36	51						
27	12	22	27	38	52						
28	13	23	28	38	52						
29	13	24	29	39	53						
30	13	25	30	40	54						
31	14	25	31	40	54						
32	15	26	32	42	56						
33	16	27	33	44	59						
34	17	28	34	46	60						
35	18	29	35	47	61						
36	19	30	36	48	62						
37	20	31	37	50	64						
38	21	31	38	51	64						
39	22	32	39	53	65						
40	23	33	40	54	66						
41	24	34	41	55	67						
42	25	35	42	56	67						
43	25	36	43	57	68						
44	26	38	44	59	69						
45	27	39	45	60	70						
46	28	39	46	60	70						
47	29	40	47	61	70						
48	30	40	48	62	71						
49	31	41	49	64	73						
50	32	41	50	65	75						

Schedule B

Eff. Age	REL	Eff. Age	REL
1	99	51	51
2	97	52	50
3	96	53	49
4	95	54	48
5	94	55	47
6	93	56	47
7	92	57	47
8	91	58	46
9	90	59	46
10	89	60	46
11	88	61	45
12	87	62	45
13	86	63	44
14	85	64	43
15	84	65	43
16	82	66	42
17	81	67	42
18	80	68	42
19	79	69	41
20	77	70	41
21	76	71	41
22	75	72	41
23	74	73	40
24	73	74	40
25	72	75	40
26	71	76	39
27	70	77	39
28	69	78	39
29	68	79	38
30	67	80	38
31	66	81	38
32	65	82	37
33	65	83	37
34	63	84	37
35	62	85	36
36	62	86	36
37	61	87	36
38	59	88	35
39	59	89	35
40	58	90	35
41	57	91	34
42	57	92	34
43	56	93	33
44	56	94	33
45	56	95	33
46	55	96	32
47	54	97	32
48	54	98	32
49	52	99	31
50	51	100	31
		101	30
		102	30

Exercise 4-1

Cost Factor: **1.06**

PIN: 03-10-108-011-0040

Lot Size: 80’ x 120’ **Lot Value:** $25,000

The lot is improved with a 15-year old, 1-story frame dwelling with vinyl siding. The dwelling has an unfinished basement and attached 2 car frame garage with vinyl siding – housing 5 rooms, including 2 bedrooms. There is a 24 square foot enclosed masonry porch (EMP).

Foundation	8” concrete block on spread footing
Heating	Gas fired forced air – central air conditioning
Plumbing	Standard 5, plus a half-bath – average grade fixtures and galvanized piping
Exterior Walls	2” x 4” stud frame; 16” on-center with vinyl siding; painted 1 ¾” doors; 1 3/8” double hung windows; 288 SF of face brick trim, grade C
Roof	Asphalt shingles over ½” plywood sheathing with 2” x 6” rafters, 24” on center (oc)
Floors	Basement – 4” concrete; 1st floor – 2” x 8” joist, 16” oc; vinyl tile and average grade carpet with pad
Interior Finish	½” drywall; pine doors and trim throughout; average grade cabinets
Miscellaneous	Average quality electrical fixtures; average quality workmanship; 12’ x 20’ concrete drive and a 4’ x 10’ concrete walk
CDU	Average
Quality Grade	**C**

Complete the PRC-2 on the next page.

Building Record - Residential - Rural (Property - Type 1)

Exercise 4-1

PRC-2 for 03-10-108-011-0040

Occupancy

1 Vacant Lot	2 Dwelling	3 Other	4 Mobile Home	5 A Frame	6 Summer Home	7 Apt.

Living Accommodations

Total Rooms	Bedrooms	Family Room

Foundation

Msy. Wall ____ Pier

Basement

1 Full	3 Crawl	4 Slab

Area without bsmt. ____ SF

Heating

1 None	2 Central	3 Air Condition	4 Other

Warm air
Hot water/Steam
Floor furnace
Unit heaters
Other

Plumbing

Standard (5)
Bathroom (3)
Half bath (2)
Sink/Lavatory water closet

Attic

1 None	2 Unfinished	3 Part	4 Full

% finished

Exterior Walls

Wood/stucco/aluminum/vinyl siding
Concrete block
Brick/stone
Other

Roof

Shingle - asphalt/asbestos/wood
Slate/tile
Composition
Other

Floors

	B	1	2	3	
Concrete					
Wood					
Tile					
Carpet					

Interior Finish

	B	1	2	3	
Plaster/dry wall					
Fiberboard					
Paneling					

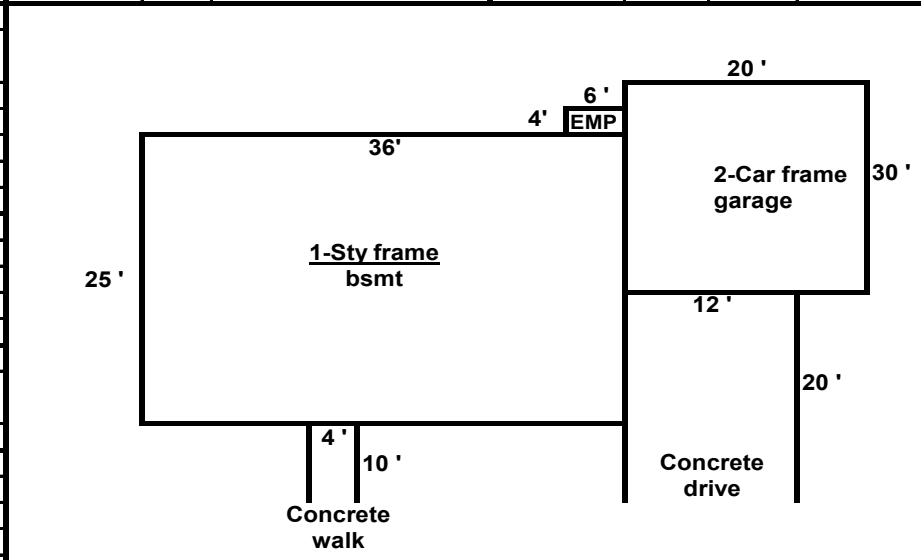
Features	SF	Quality	Type
Pt. Msy Trim			Brk[1] Stone[2] Art[3]
Finished			Living
Basement			Recreation
Fireplaces			Stacks
Integral garage		On grade [1]	Below [2]
Attached garage		Frm1 Msy.2	Carport3

NH | Remodeled | Sold Date Mo. Day Yr.

Amount $

Memo

Condo. Comm.	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]
Prorated %	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]
With:	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]
	Wd. deck	SF	Wood deck [6]



Age | Adj. Age

CDU

Grade

Dwelling Computations

Sty. Constr. SF

Sty. Constr. SF

	SF	
Basement		9740
Heating/Central air		2730
Sched. Comb.		
Plumbing + -		
Attic		
Porches		
Attach./Integral garage + -		
Total		
Grade		
Total		
Other features		
Pt. msy. Walls		
Fireplace		
Finished basement		
Total		
C x D		
NH x AP		
Replacement cost new		
Eff. Age REL		
Depr.		
S C M I	**Full Value**	

Summary of Other Buildings

Type	No.	Construction	Size	Rate	Grade	Age	CDU	Factor	Repl. Cost new	REL	Full Value
Garage (detached)		Frm[1] Msy.[2] Carport[3]									
Drive	**1**	**Concrete**			**C/1.0**	**15**	**Avg.**				
Walk	**1**	**Concrete**			**C/1.0**	**15**	**Avg.**				

Listed by:

Date:

Total full value other buildings

Total full value all buildings

Exercise 4-2

Cost Factor: **1.06**

PIN: 04-01-406-002-0040

Lot Size: 80’ x 150’ **Lot Value:** $32,000

The lot is improved with a 65-year old, 2-story frame dwelling with wood siding. The dwelling is on a crawl, housing 8 rooms, including 4 bedrooms and a detached 1-car frame garage with wood siding. There is a 24 square foot open frame porch (OFP).

Foundation	8” concrete block wall
Heating	Warm air system
Plumbing	Standard 5 with poor grade fixtures and galvanized iron piping
Exterior Walls	Painted wood siding over 2” x 4” studs, 16” oc; 1 3/8” pine doors; 1 3/8” pine double-hung windows
Roof	Asphalt shingles with 2” x 4” rafters, 24” oc with 3/8” plywood sheathing
Floors	1st & 2nd floors – 2” x 8” joist, 16” oc; poor grade tile and soft wood floors
Interior Finish	3/8” plaster board; cheap pine doors and trim throughout; poor kitchen cabinets
Miscellaneous	Poor quality electrical fixtures; lack of electrical outlets; below average workmanship; 8’ x 100’ crushed stone drive
CDU	Poor
Quality Grade	**D**

Complete the PRC-2 on the next page.

Building Record - Residential - Rural (Property - Type 1)

Exercise 4-2

PRC-2 for 04-01-406-002-0040

Occupancy

1 Vacant Lot	2 Dwelling	3 Other	4 Mobile Home	5 A Frame	6 Summer Home	7 Apt.

Living Accommodations

Total Rooms	Bedrooms	Family Room
8	4	--

Foundation

8" Msy. Wall — Pier

Basement

1 Full	3 Crawl	4 Slab

Area without bsmt. — SF

Heating

1 None	2 Central	3 Air Condition	4 Other

Warm air	X
Hot water/Steam	
Floor furnace	
Unit heaters	
Other	

Plumbing

Standard (5)	X
Bathroom (3)	
Half bath (2)	
Sink/Lavatory water closet	

Attic

1 None	2 Unfinished	3 Part	4 Full

% finished

Exterior Walls

Wood/stucco/aluminum/vinyl siding	X
Concrete block	
Brick/stone	
Other	

Roof

Shingle - asphalt/asbestos/wood	X
Slate/tile	
Composition	
Other	

Floors

	B	1	2	3	
Concrete					
Wood		X	X		
Tile		X	X		
Carpet					

Interior Finish

	B	1	2	3	
Plaster/dry wall		X	X		
Fiberboard					
Paneling					

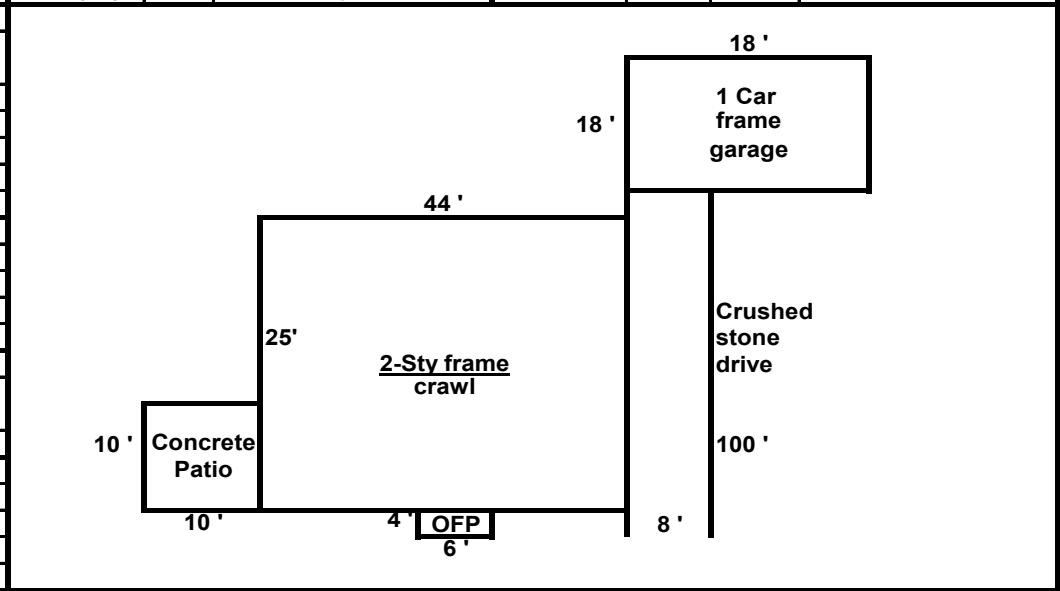
Features	SF	Quality	Type
Pt. Msy Trim			Brk[1] Stone[2] Art[3]
Finished			Living
Basement			Recreation
Fireplaces			Stacks
Integral garage		On grade [1]	Below [2]
Attached garage		Frm1 Msy.2	Carport3

Remodeled — Sold Date Mo. Day Yr.

NH — Amount $

Memo

Condo. Comm. / Prorated % / With:	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]
	Porch	24 ' SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]
	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]
	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]
	Wd. deck	SF	Wood deck [6]



Age 65 yrs	Adj. Age	
CDU Poor		
Grade D		
Dwelling Computations		
Sty. Constr. SF		
Sty. Constr. SF		
	SF	
Basement		7,860
Heating/Central air		
Sched. Comb.		
Plumbing + -		
Attic		
Porches		
Attach./Integral garage +		
Total		
Grade		
Total		
Other features		
Pt. msy. Walls		
Fireplace		
Finished basement		
Total		
C x D		
NH x AP		
Replacement cost new		
Eff. Age	REL	
Depr.		
S C M I	Full Value	

Summary of Other Buildings

Type	No.	Construction	Size	Rate	Grade	Age	CDU	Factor	Repl. Cost new	REL	Full Value
Garage (detached)	1	rm[1] Msy.[2] Carpor			D/.82	65	Poor				
Drive	1	Crushed stone			D/.82	65	Poor				
Patio	1	Concrete			D/.82	65	Poor				

Listed by: — Total full value other buildings

Date: — Total full value all buildings

Exercise 4-3

Cost Factor: **1.06**

PIN: 03-33-333-009-0040

Lot Size: 80’ x 120’ **Lot Value:** $24,000

The lot is improved with a 56-year old, 1 ½ story brick solid masonry dwelling with attached 2 car brick solid masonry garage. The dwelling is on an unfinished basement, housing 6 rooms, including 3 bedrooms. The upper level has 650 square feet of finished space.

Foundation	8” concrete block walls with concrete footing
Heating	Gas fired forced air, central air conditioning
Plumbing	Standard 5, plus an additional full bath and a half-bath, average grade fixtures and galvanized piping
Exterior Walls	Brick; 1 ¾” doors; 1 3/8” double-hung windows
Roof	2” x 6” rafters, 24” oc; 1/2” plywood sheathing and asphalt shingles
Floors	Basement – 4” concrete; 1st and 2nd floors – 2” x 8” joist 16” oc; sanded maple and some tile and carpeting
Interior Finish	Lath and plaster; pine doors and trim throughout; average grade kitchen cabinets
Miscellaneous	Average quality electrical fixtures; average quality workmanship; 10’ x 30’ asphalt drive; 4’ x 20’ concrete walk; 1350 SF unfinished basement; 20’ x 6’ enclosed frame porch
CDU	Good
Quality Grade	**C**

Complete the PRC-2 on the next page.

Building Record - Residential - Rural (Property - Type 1)

Exercise 4-3

PRC-2 for 03-33-333-009-0040

Occupancy

1 Vacant Lot	2 Dwelling	3 Other	4 Mobile Home	5 A Frame	6 Summer Home	7 Apt.

Living Accommodations

Total Rooms	Bedrooms	Family Room

Foundation

Msy. Wall | Pier

Basement

1 Full	3 Crawl	4 Slab

Area without bsmt. SF

Heating

1 None	2 Central	3 Air Condition	4 Other

Warm air
Hot water/Steam
Floor furnace
Unit heaters
Other

Plumbing

Standard (5)
Bathroom (3)
Half bath (2)
Sink/Lavatory water closet

Attic

1 None	2 Unfinished	3 Part	4 Full

% finished

Exterior Walls

Wood/stucco/aluminum/vinyl siding
Concrete block
Brick/stone
Other

Roof

Shingle - asphalt/asbestos/wood
Slate/tile
Composition
Other

Floors

	B	1	2	3	
Concrete					
Wood					
Tile					
Carpet					

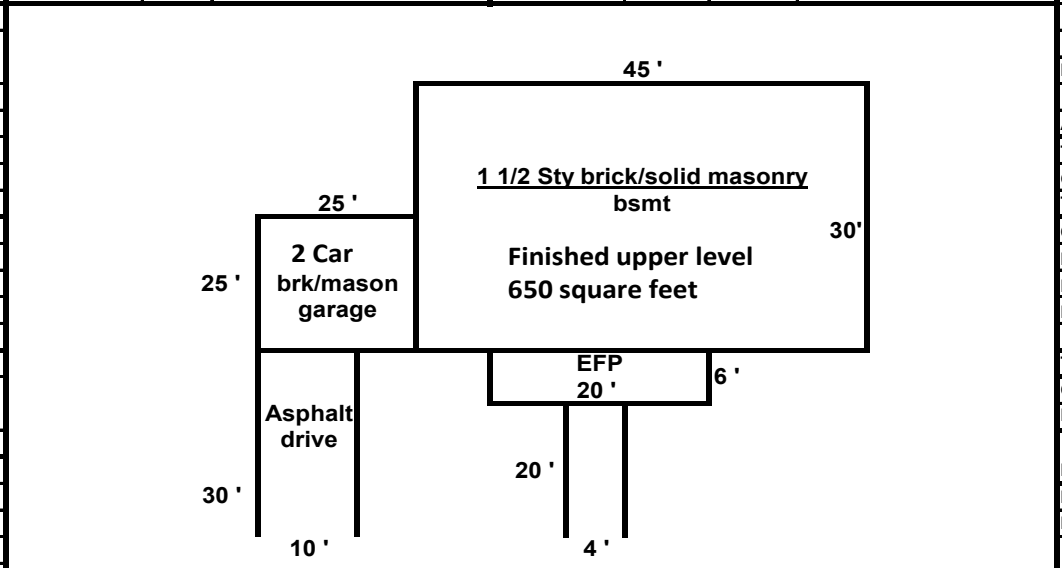
Interior Finish

	B	1	2	3	
Plaster/dry wall					
Fiberboard					
Paneling					

Features	SF	Quality	Type
Pt. Msy Trim			Brk[1] Stone[2] Art[3]
Finished			Living
Basement			Recreation
Fireplaces			Stacks
Integral garage		On grade [1]	Below [2]
Attached garage		Frm1 Msy.2	Carport3

Remodeled
NH
Sold Date Mo. Day Yr.
Amount $
Memo

Condo. Comm.	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]
Prorated %	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]
With:	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]
	Wd. deck	SF	Wood deck [6]



Dwelling Computations

Sty. Constr. SF
Sty. Constr. SF

	SF	
Basement		13131
Heating/Central air		
Sched. Comb.		
Plumbing + -		
Attic		
Porches		
Attach./Integral garage +		
Total		
Grade		
Total		
Other features		
Pt. msy. Walls		
Fireplace		
Finished basement		
Total		
C x D		
NH x AP		
Replacement cost new		
Eff. Age / REL		
Depr.		
S C M I / Full Value		

Summary of Other Buildings

Type	No.	Construction	Size	Rate	Grade	Age	CDU	Factor	Repl. Cost new	REL	Full Value
Garage (detached)		Frm[1] Msy.[2] Carport[3]									
Drive	1	Asphalt			C/1.00	56	Good				
Walk	1	Concrete			C/1.00	56	Good				

Listed by:
Date:
Total full value other buildings
Total full value all buildings

Exercise 4-4

You will encounter one residential PRC (PRC-2) on your exam that does not have any narrative. One of the purposes is to figure out the description of the property by the boxes that have been checked. An example of a PRC-2, in the same format, is on the next page.

Building Record - Residential - Rural (Property - Type 1)

Exercise 4-4 Example of an examination PRC-2

Occupancy

1 Vacant Lot	2 Dwelling	3 Other	4 Mobile Home	5 A Frame	6 Summer Home	7 Apt.

Living Accommodations

Total Rooms	Bedrooms	Family Room
7	3	1

Foundation

8" Msy. Wall — Pier

Basement

1 Full	3 Crawl	4 Slab

Area without bsmt. SF

Heating

1 None	2 Central	3 Air Condition	4 Other
Warm air			X
Hot water/Steam			
Floor furnace			
Unit heaters			
Other			

Plumbing

Standard (5)	X
Bathroom (3)	X
Half bath (2)	
Sink/Lavatory water closet	

Attic

1 None	2 Unfinished	3 Part	4 Full

% finished

Exterior Walls

Wood/stucco/aluminum/vinyl siding	
Concrete block	
Brick/stone	X
Other	

Roof

Shingle - asphalt/asbestos/wood	X
Slate/tile	
Composition	
Other	

Floors

	B	1	2	3	
Concrete	X				
Wood		X			
Tile					
Carpet		X			

Interior Finish

	B	1	2	3	
Plaster/dry wall		X			
Fiberboard					
Paneling					

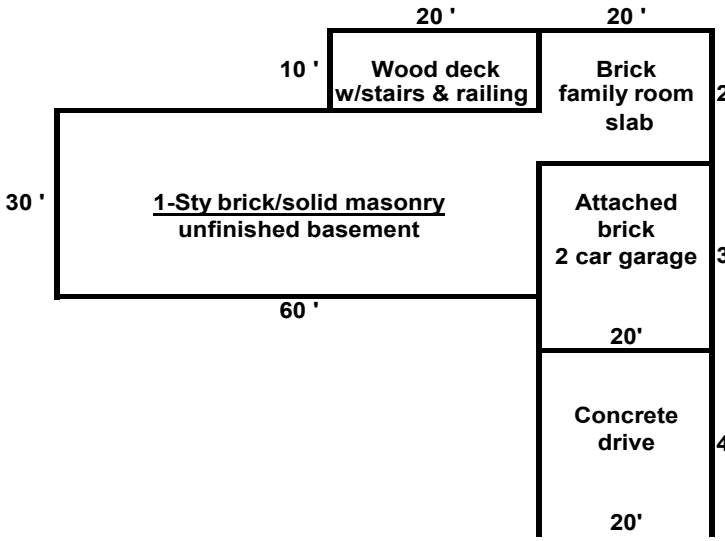
Features	SF	Quality	Type
Pt. Msy Trim			Brk[1] Stone[2] Art[3]
Finished			Living
Basement			Recreation
Fireplaces	#1	masonry	Stacks #1
Integral garage		On grade[1]	Below[2]
Attached garage	600	Frm1 Msy.2	Carport3

Remodeled — Sold Date Mo. Day Yr.

NH — Amount $

Memo

Condo. Comm.	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]	
Prorated %	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]	
With:	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]	
	Wd. deck	200SF	Wood deck[6]	



Summary of Other Buildings

Type	No.	Construction	Size	Rate	Grade	Age	CDU	Factor	Repl. Cost new	REL	Full Value
Garage (detached)		Frm[1] Msy.[2] Carport[3]									
Drive	1	Concrete			B	5	Avg.	1.06			

Listed by:

Date:

Total full value other buildings

Total full value all buildings

Age 5 yrs — **Adj. Age**

CDU Average

Grade B

Dwelling Computations

Sty.	Constr.	SF	
Sty.	Constr.	SF	
			SF
Basement			
Heating/Central air			
Sched. Comb.			
Plumbing	+	-	
Attic			
Porches			
Attach./Integral garage	+		
Total			
Grade			
Total			
Other features			
Pt. msy. Walls			
Fireplace			
Finished basement			
Total			
C x D			1.06
NH x AP			
Replacement cost new			
Eff. Age	REL		
Depr.			
S C M I	Full Value		

Summary

Use the residential schedules to develop a replacement cost new (RCN) of a dwelling. When using the residential cost schedules, you must determine the building style and type of construction. Then use the base cost schedule to correlate the total square foot of living area with the type of exterior construction.

The base price schedules include normal construction features, such as floors, roof, interior finish, central heating, lighting, plumbing (standard 5 plumbing fixtures), and average landscaping.

Central air conditioning is not included in the base price. If the structure is cooled by central air, you must make a plus (+) adjustment.

The base price includes the standard 5 plumbing fixtures. If the structure has more than the standard 5 fixtures, you must make a plus (+) adjustment for each additional fixture. If the structure has less than the standard 5 fixtures, you must make a minus (-) adjustment for each additional fixture.

Porches are not included in the base cost. If the structure has one or more porches, you must make an addition to the base price. If you have more than one porch attached to the structure, you must price each porch individually.
The base price includes a slab. If the structure has a basement or crawl, you must make a positive (+) adjustment.

Unit 4 Review Questions

1. **T or F** You need to make an adjustment if an improvement has 5 plumbing fixtures.

2. **T or F** A frame house of 1,000 square feet on a slab will not have an adjustment for a basement.

3. **T or F** All detached garages are calculated using the Summary of Other Buildings section on the PRC.

4. **T or F** The quality grade is used to determine an REL factor.

5. **T or F** To compute the value for an enclosed frame porch of 60 square feet and an enclosed frame porch of 40 square feet, you should add the square footage of the porches together and price out a porch of 100 square feet from the cost tables.

Unit 5
Apartment Square Foot Schedules

This unit explains the use of the apartment square foot and subsidiary cost schedules found in Publication 126, Instructions for Commercial Schedules (Pub-126).

The purpose of this unit is to provide a basic understanding of the format, the values, and the various adjustment factors found in the square foot cost schedules.

Learning Objectives

After completing the assigned readings, you should be able to

- identify pertinent construction specifications found on the PRC-4.
- determine average unit size.
- determine the base cost for first-story and upper-story levels.
- locate costs for plumbing, basements, and air conditioning.
- reference supplemental schedules.
- determine the REL of improvements.

Terms and Concepts

- Average unit size
- Construction specifications
- Base cost

Apartment Schedules

The schedules in Pub-126 are based on construction costs in central Illinois. The values given are also based on construction using average quality materials and workmanship. As discussed in Unit 3, there are various factors that can be applied to adjust these publications to reflect the values in various jurisdictions.

Pub-126 has been developed for estimating the RCN of apartment buildings of six or more units per structure. The RCN of apartments of less than six units per structure should be estimated using Pub-123.

The PRC-4 is used to value commercial structures and also used for valuing apartment structures. The left portion of the card is used for listing construction specifications. Construction specifications include foundation, framing, floors, exterior wall construction, finish, heat, air conditioning, roofing, plumbing, and use. The computation column on the right side of the card is used to value the property.

On the card, a total square foot floor area (SFFA) cost is computed by adding the square foot cost of each floor. The average unit size is derived by dividing the square foot floor area of all finished areas, including corridors and access shafts, by the number of apartment units.

For example, if you had a 4-story apartment building measuring 50’ by 100’ and containing 16 units, you would have an average unit size of 1,250 square feet.

50’ x 100’ = 5,000 SFGA

5,000 SFGA x 4 stories = 20,000 square feet finished area

20,000 square feet ÷ 16 units = 1,250 square feet per unit.

The base price for the apartment square foot schedule includes the cost of constructing the super structure except the basement. Also included in the base price are average quality walls, ceilings, and floor finishes; a typical amount for partitioning; interior walls; heating; central air conditioning; electricity and lighting; kitchen cabinets; and 5 plumbing fixtures per apartment unit. The standard 5 plumbing fixtures are the bathroom toilet, bathroom basin, bathroom tub, kitchen sink, and hot water heater.

The absence of any of these amenities requires a minus adjustment to the RCN estimate. Likewise, additional features such as fireplaces, elevators, extra plumbing fixtures, security systems, and fire protection systems would require a plus adjustment to the RCN estimate. The amount of the positive and negative adjustment in most cases can be found in the schedules directly below the apartment base cost schedules, the residential schedules, or component-in-place (CIP) schedules.

The left column of the base cost schedules refers to the average unit size. Moving across each schedule, the values in the applicable story column are further divided depending on the type of construction.

To determine a value, locate the average unit size in the left column and then select the corresponding value for the appropriate construction type. To determine a base cost for a 3-story structure constructed of brick on a concrete block, with an average unit size of 1,100, find the value for the first story — $203.80. Move to the next schedule and find the value of the second story — $175.25. Move to the next schedule and find the value of the third story — $173.20.

First story = $203.80

Second story = $175.25

Third story = $173.20

$552.25 base price per SFGA

Apartment cost schedule						
	First story					
Average Unit Size	Face brick on conc. block /common brick	Decorative conc. block	Precast conc. panels	Stucco on conc. block	Brick veneer on wood studs	Siding on wood studs
500	$ 209.05	$ 197.45	$ 209.25	$ 176.70	$ 186.65	$ 176.80
600	208.15	196.55	208.35	169.80	179.00	169.50
700	207.30	195.64	207.40	160.20	171.55	162.90
800	206.40	194.70	206.50	157.00	164.90	157.10
900	205.50	194.25	205.60	153.75	161.35	153.80
1,000	204.70	193.25	204.25	151.05	158.50	151.25
1,100	203.80	191.70	202.35	149.40	156.10	148.35
1,200	202.90	190.95	201.55	146.15	152.60	146.15
1,300	201.85	190.00	200.55	144.70	150.15	144.90
1,400	201.00	189.25	199.40	143.55	149.80	143.55
1,500 +	200.15	188.50	198.60	142.15	148.25	142.20

Apartment cost schedule						
	Second story					
Average Unit Size	Face brick on conc. block /common brick	Decorative conc. block	Precast conc. panels	Stucco on conc. block	Brick veneer on wood studs	Siding on wood studs
500	$ 188.80	$ 171.80	$ 182.05	$ 155.50	$ 164.25	$ 155.60
600	180.45	171.00	181.25	149.45	157.50	148.30
700	178.25	170.20	180.45	140.95	151.00	143.35
800	177.50	169.40	179.65	138.20	145.10	138.25
900	176.55	169.00	178.85	135.30	142.00	135.35
1,000	176.05	168.15	177.70	132.95	139.50	133.10
1,100	175.25	166.80	176.05	129.95	135.85	129.10
1,200	174.50	166.15	175.35	127.15	134.20	127.15
1,300	173.60	165.30	174.50	125.90	130.69	126.05
1,400	172.85	164.65	173.50	124.90	130.30	124.90
1,500 +	172.15	164.00	172.80	123.70	130.15	123.75

Apartment cost schedule						
	Third story					
Average Unit Size	Face brick on conc. block /common brick	Decorative conc. block	Precast conc. panels	Stucco on conc. block	Brick veneer on wood studs	Siding on wood studs
500	$177.70	$ 167.85	$ 177.85	$ 150.20	158.65	$ 150.30
600	176.95	167.05	177.10	144.35	152.15	144.10
700	176.20	166.30	176.30	136.15	145.85	138.45
800	175.45	165.50	175.55	133.45	140.15	133.50
900	174.70	165.10	174.75	130.70	137.15	130.70
1,000	174.00	164.25	173.60	128.40	134.75	128.60
1,100	173.20	162.95	172.00	124.00	129.55	124.65
1,200	172.45	162.30	171.30	121.30	126.65	121.30
1,300	171.55	161.50	170.45	120.10	124.65	120.30
1,400	170.85	160.85	169.50	119.15	124.30	119.15
1,500 +	170.15	160.25	168.80	118.00	123.05	118.05

The base price includes the cost of the standard 5 plumbing fixtures per unit. If you have more than 5 fixtures per unit, add $1,795.00 per fixture. If you have less than the standard 5 plumbing fixtures per unit, subtract $1,795.00 per fixture.

The total number of plumbing fixtures is indicated on the PRC-4 in the lower left corner. In this example, each unit has 1 ½ baths, a kitchen sink, and a hot water heater, so each unit has 7 fixtures, for a total of 112 fixtures.

7 fixtures per unit x 16 units = 112 fixtures.

Indicate 112 “type 1” residential fixtures on the card. Since the base price includes only 80 fixtures in the computation ladder, (5 fixtures per unit x 16 units = 80 fixtures), add for the cost of the extra 32 plumbing fixtures. In the computation ladder on the right side of the PRC-4, under “plumbing” write:

112 - 80 = 32 fixtures x $1,795.00 = $57,440.00

Plumbing (±)
Base price includes an amount for 5 typical fixtures per unit. Add or deduct $1,795 for each fixture more or less than the standard count.

The base price includes air conditioning. If the structure is not air conditioned, subtract $17.35 per square foot of non-air-conditioned area per floor, to adjust the value in the computation ladder.

The cost of air conditioning is deducted in the upper portion of the computation ladder where you estimate the cost per SFGA of the apartment building. This cost per SFGA is multiplied by the SFGA of the building to obtain the “subtotal” in the computation ladder.

Since there are 3 floors that are not air conditioned, multiply the adjustment for 1 non-air-conditioned floor ($17.35 per square foot) times the number of non-air-conditioned floors, ($17.35 x 3 floors = $52.05) This amount, - $52.05 is entered under “A/C” in the computation ladder.

No Central A/C - per floor (-)	
All apartments	$17.35/SFF
For apartment buildings that have heating systems that do not require ducts, add 40% to the above price.	

A quality grade can be applied to adjust for quality of materials and workmanship.

Quality				
	+50	338%	C	100%
	+25	281%	-5	95%
	+10	248%	+ / - 10	90%
AA		225%	+5	86%
	+40	210%	D	82%
	+30	195%	-5	78%
	+20	180%	-10	74%
	+10	165%	-20	66%
	+5	158%	-30	57%
A		150%	E	50%
	-5	143%	-10	45%
	+/- 10	135%	-20	40%
	+5	128%	-30	35%
B		122%	-40	30%
	-5	116%	-50	25%
	+ / - 10	110%		
	+5	105%		
Add for cost of other physical features from CIP or residential schedules				

Apartment REL Depreciation Tables

The RCN for a structure represents what it would cost to construct a like structure today. Once this value has been calculated using the schedules, depreciation must be deducted. To arrive at a depreciation factor, consult the Apartment REL Depreciation Tables.

Schedule “A” is used to determine the effective age of the structure. Unlike the commercial schedule, the left column of the schedule is concerned with the actual age of the structure. To arrive at an effective age, locate the actual age in the left column and find the corresponding column for the appropriate CDU rating. Once you determine the effective age based on its condition, desirability and utility, refer to Schedule B. In Schedule B, locate the effective age to find the appropriate REL factor. REL plus depreciation will always equal 100 percent of the structure’s RCN.

Apartment REL Table

Schedule A

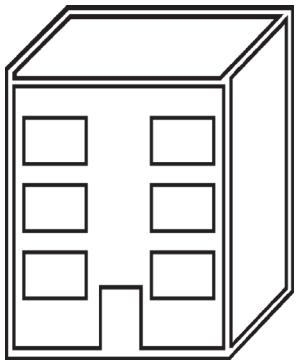
Age	Effective Age					Age	Effective Age				
	E	G	A	P	U		E	G	A	P	U
1	1	1	1	15	31	63	26	45	63	95	113
2	1	1	2	16	32	64	27	46	64	95	113
3	1	2	3	17	34	65	29	48	65	96	114
4	2	3	4	19	36	66	29	49	66	97	114
5	3	4	5	20	37	67	30	51	67	98	115
6	4	5	6	21	39	68	31	52	68	98	115
7	5	6	7	22	40	69	32	53	69	99	116
8	6	7	8	23	42	70	33	53	70	99	116
9	6	8	9	24	43	71	33	53	71	99	116
10	7	9	10	25	44	72	34	54	72	100	117
11	7	10	11	26	46	73	34	54	73	100	117
12	7	10	12	27	48	74	34	55	74	100	117
13	8	11	13	29	49	75	35	56	75	101	118
14	9	12	14	30	51	76	35	56	76	101	118
15	9	13	15	31	53	77	35	57	77	101	118
16	10	14	16	32	54	78	35	57	78	101	118
17	10	15	17	34	56	79	36	58	79	102	119
18	10	15	18	35	60	80	36	58	80	102	119
19	11	16	19	36	60	81	36	58	81	102	119
20	11	16	20	37	62	82	36	58	82	102	119
21	11	17	21	39	65	83	37	59	83	103	120
22	11	18	22	40	67	84	37	59	84	103	120
23	12	19	23	42	69	85	37	59	85	103	121
24	13	20	24	43	72	86	37	59	86	103	121
25	14	20	25	44	75	87	38	60	87	104	122
26	14	21	26	46	79	88	38	62	88	106	123
27	15	22	27	48	83	89	38	65	89	107	124
28	15	22	28	48	84	90	38	66	90	107	124
29	15	22	29	49	87	91	39	67	91	108	124
30	15	23	30	51	88	92	39	68	92	109	124
31	15	23	31	53	89	93	39	69	93	110	124
32	16	24	32	54	91	94	40	72	94	111	124
33	16	24	33	55	91	95	40	75	95	113	124
34	16	25	34	56	92	96	40	79	96	114	124
35	16	25	35	58	93	97	41	80	97	114	124
36	17	26	36	60	94	98	41	83	98	115	124
37	17	27	37	62	95	99	42	87	99	116	124
38	17	28	38	63	95	100	43	88	100	117	124
39	17	28	39	65	96	101	44	89	101	118	124
40	18	29	40	67	98	102	45	91	102	119	124
41	18	29	41	68	98	103	45	92	103	120	124
42	18	30	42	69	99	104	46	93	104	122	124
43	19	30	43	72	100	105	47	93	105	122	124
44	19	31	44	75	101	106	48	93	106	123	124
45	19	31	45	76	101	107	48	94	107	124	124
46	19	32	46	79	102	108	51	95	108	124	124
47	19	32	47	80	102	109	52	96	109	124	124
48	20	33	48	83	103	110	52	98	110	124	124
49	20	34	49	87	104	111	53	99	111	124	124
50	20	34	50	87	105	112	53	99	112	124	124
51	21	35	51	88	106	113	54	100	113	124	124
52	21	35	52	88	106	114	54	101	114	124	124
53	22	36	53	89	107	115	58	102	115	124	124
54	22	37	51	91	108	116	59	102	116	124	124
55	22	38	55	91	108	117	59	103	117	124	124
56	23	39	56	92	109	118	60	104	118	124	124
57	23	39	57	92	109	119	62	106	119	124	124
58	24	40	58	93	110	120	65	107	120	124	124
59	25	42	59	93	110	121	66	107	121	124	124
60	25	43	60	94	111	122	66	108	122	124	124
61	25	43	61	94	112	123	67	109	123	124	124
62	26	44	62	95	113	124	68	109	124	124	124

Schedule B

Eff. Age	REL	Eff. Age	REL
1	100	63	50
2	99	64	50
3	98	65	49
4	96	66	49
5	95	67	48
6	94	68	48
7	93	69	47
8	92	70	47
9	91	71	47
10	90	72	46
11	89	73	46
12	88	74	46
13	87	75	45
14	86	76	45
15	85	77	45
16	84	78	45
17	83	79	44
18	82	80	44
19	81	81	44
20	80	82	44
21	79	83	43
22	78	84	43
23	77	85	43
24	76	86	43
25	75	87	42
26	74	88	41
27	73	89	40
28	73	90	40
29	72	91	39
30	71	92	38
31	70	93	37
32	69	94	36
33	69	95	35
34	68	96	34
35	67	97	34
36	66	98	33
37	65	99	32
38	65	100	31
39	64	101	30
40	63	102	29
41	63	103	28
42	62	104	27
43	61	105	27
44	60	106	26
45	60	107	25
46	59	108	24
47	59	109	23
48	58	110	22
49	57	111	21
50	57	112	21
51	56	113	20
52	56	114	19
53	55	115	18
54	54	116	17
55	54	117	16
56	53	118	15
57	53	119	14
58	52	120	13
59	52	121	13
60	51	122	12
61	51	123	11
62	50	124	10

Property Record - Commercial - Industrial

Construction Specifications							Use						Data Bank		Description	Computation	
Foundation							Store		Office		Vacant		SF Ground Area	3,900	Flr. Price x Ht. Adj.	WH	
Sprd. Ftg		X	Pile				Apt.	X	WH		Abandoned		Eff. Perim LF			Bsmt.	
Caisson			Other				Factory						CF of Bldg.			1st Floor	204.70
Wall Framing							No. of Units	12					SF Wall Area			2nd Floor	176.05
	B	1	2	3	A		Avg. Unit Size	11,700 ÷ 12 = 975					Wall Ratio			3rd Floor	174.00
Wood							No. Rooms Per Unit						Sty.	Sched.			
Steel O/FP							Prorated @ _____% with:										
Reinf. Concrete		X	X	X												Base Price	554.75
Load Bearing		X	X	X											Size x Shape x Weight	BPA	
Frame Bay - Bay Area						SF										Adj. Base Price	
Floors																Heat	
Wood			X	X											$ 17.35 x 3	A/C	-52.05
Steel O/FP																Electrical Light	
Reinf. Concrete		X														Sprinkler	
Frame	Wood	Steel	Conc.														
Exterior Walls																	
Siding																	
Masonry Blk./Brk.																SF Price	502.70
Steel																SF	3,900
Glass																Subtotal	1,960,530
Brk /Conc Block		X	X	X												Plumbing	
Finish																	
Unfinished																Partitions	
Finished Open																	
Finished Divd.		X	X	X												Front	
																Canopy	
Heat																Dock	
Cent. Wm. Air		X	X	X													
Ht. Wt/Steam																	
Unit Heaters															S C M I Grade	**Total**	**1,960,530**
None															C&D G **1.22** NH A	=FAC	**1.22**
															Eff. Age / Eff. Age / CDU / Age	Replacement Cost New	
Air Conditioning															**101** / **Poor** / **78 yrs**		**2,391,847**
Central															Depreciation = **70**	REL	.30
Unit																**Full Value**	**717,554**
None		X	X	X													



60 '

65 '

12-Unit apartment building

3-Sty brk conc block slab

Summary of Other Buildings

Type	No.	Construction	Size	Rate	Grade	Age	CDU	Factor	Repl. Cost New	REL	Full Value

Roofing						Plumbing Type				
Composition	X	Shingle				1	**60**	2		
Slate		Metal				3		4		
Frame	Wood	Steel	Conc.							
							Sprinkler	**None**		

Listed by: | Total full value other buildings

Date: | Total full value all buildings

Listing a Property

Now that you are familiar with the apartment schedules, you are going to list an apartment building and calculate its value.

The PRC-4 is completed based on the following information. Refer to it as you go through this line-by-line example.

The subject property is a 3-story brick on concrete block apartment building, constructed 78 years ago. The building contains 12 units. The units vary in floor plan, but most have one bedroom, one bathroom, a living room, dining area, and kitchen. The units at the front of the building also have a sunroom, which could serve as a second bedroom.

Even though the structure is 78 years old, the original material and workmanship were of high quality and a quality grade of “B” has been assigned. The building is located near the downtown area. The immediate neighborhood is on the decline and is evolving from a residential to a commercial area. While the building has been maintained, it hasn’t been updated and many of the amenities are less efficient than modern equipment and are no longer functional. For these reasons, the CDU is rated as “poor.”

As discussed earlier, the base price for apartment buildings is based on an average unit size. When calculating the average unit size, use all finished areas in the calculation, including corridors and access shafts.

In addition to the specific items listed on the PRC-4, the assessor must inspect the entire building and note items that could have a bearing on the value in the field notes. While the assessor may have some personal views concerning the decor, the assessor is more concerned, from a market standpoint, with the general condition of the structure.

The area on the left of the card is for the construction specifications.

1. **Foundation** is the first item under construction specifications on the PRC-4. The foundation is spread footing and the structure was constructed on a concrete slab. Check “spread footing” on the PRC-4.

2. The next item is **wall framing.** Check “load bearing on the first, second, and third floors because the walls bear the weight of the structure. While inspecting the units, several items were noted in the field notes. The units have lath and plaster walls, and 10’ ceilings. The structure has concrete block framing.

3. Check **wood** for the floors on the second and third floors. Since the building is constructed on a slab, the first floor is listed as concrete.

4. The next category is **exterior walls.** Circle “brick” and check the first second, and third floors. Write concrete block frame below that line.

5. As observed through the listing process, the building has a warm air system. Circle “Central/Warm Air” and check the corresponding boxes for the first, second, and third floors. Note that the structure is not air-conditioned. The absence of air conditioning requires an adjustment to the computation ladder when establishing a value for the structure.

6. The next category is **roofing.** The roof is constructed with wood frame, a wood deck, and built-up composition cover. Check the box for “composition roof”.

7. The last item on the construction specification column is **plumbing**. When listing the property, it was determined that each of the 12 units contained the standard 5 plumbing fixtures. Therefore, it is noted that there are 60 “type 1” residential grade fixtures.

   12 units x 5 fixtures = 60 fixtures

   Remember, the total number of fixtures for the building is listed on the PRC-4 instead of listing the fixtures unit by unit. Since the units contain no more or no less than the standard 5 fixtures that are included in the base cost, no adjustment is needed on the computation ladder.

8. The assessor should inspect the exterior, as well as the interior of the structure. The assessor should also note observations about the neighborhood in order to determine the correct CDU rating.

The area at the top of the card is for listing the use of the structure.

9. Check “apartment.” Also note that there are 12 units with an average unit size of 975 square feet.

10. The area in the center of the card is designed for drawings indicating the elevation and floor dimensions. This structure measures 65 x 60 feet.

11. To arrive at the average unit size, multiply the square footage of the ground floor times the number of floors, and then divide it by the number of units.

60 feet x 65 feet = 3,900 SFGA

3,900 SFGA x 3 floors = 11,700 total square feet.

11,700 / 12 units = 975 square feet (average unit size)

Since it is not necessary to adjust the apartment schedules for size, shape, weight, or height, the only other item to complete in the data bank is the SFGA.

Now that the data bank is completed, consult the apartment square feet schedules and calculate the value in the computation ladder.

12. Looking at the apartment schedules, note the value for the first story of a "brick on concrete block" structure with an average unit size of 1,000 square feet is $204.70 (use the average unit size in the schedule that is closest to the average unit size of the building). The value for the second floor for "brick on concrete block" structure with an average unit size of 1,000 square feet is $176.05, and again for the third story, $174.00. The values placed in the computation ladder would be $204.70, $176.05, and $174.00, for a total base price of $554.75. When using the apartment schedule, no adjustment is needed for size, shape or weight, so the **BPA** is not applicable.

13. The next item in the computation ladder is **heat**. Heating is included in the base price. The structure had heat so no adjustment is necessary.

    Adjustments in the computation ladder from the **Heat** line to the **S/F Price** line are made on the basis of square feet of serviced area (or in the case of air conditioning and heat, the square feet of area not serviced). This is because the adjustments are added to or subtracted from the **Base Price** and the result is multiplied by SFGA to obtain the **Subtotal** line. Adjustments in the computation ladder from the **Plumbing** line to the **Total** line are made on a total cost basis, because those adjustments are not multiplied by the SFGA.

14. The base price includes air conditioning. This structure is not air-conditioned, so a minus adjustment, or a subtraction, is necessary. Looking at the schedules, note that for average unit sizes of 500 - 1,500+ square feet, a subtraction of $17.35 per square foot is necessary. The total adjustment is entered on the **A/C** line.

    First floor = -$17.35
    Second floor = -$17.35
    Third floor = -$17.35
    -$52.05 entered on the "A/C" line.

15. Normal electrical lighting is included in the base price, so no adjustment is necessary. The structure is not sprinkled, so again no adjustment is necessary. If the structure had a sprinkler system, refer to the CIP schedules to obtain a value. These schedules are not covered in this class.

16. The next item is **square foot price**. Take the base price of $554.75 and subtract the $52.05 for lack of air conditioning, to arrive at a per square foot price of $502.70.

17. Once the value per square foot is determined, multiply the S/F price times the number of square feet in the ground floor to obtain a value. The subtotal for this structure is $1,960,530.

    $502.70 x 3,900 SFGA = $1,960,530

18. The next item in the computation ladder is **plumbing**. As discussed earlier, the base price includes 5 fixtures per unit. There are 12 units, so 60 fixtures are included in the base price. A survey of the building indicates that there are 60 fixtures, so no adjustment is required.

19. Normal partitioning is included in the base price. There are no store fronts, canopy or dock, so no adjustments are required.

20. Since you have made no additions or deductions to the subtotal, the manual's RCN for the structure is $1,960,530.

21. Due to the fine quality of the materials and workmanship, the structure has a quality grade of "B." There is no quality schedule in the apartment building schedules. Look at the schedule for **"Quality,"** in the residential schedules in Unit 3; note that the factor for a grade of "B" is 122 percent. You have no cost factor, design factor, or neighborhood factor. If you had additional factors, you would chain-multiply to arrive at one factor and multiply this factor times the amount on the **Total** line to obtain the RCN.

22. Multiply the manual's RCN value of $1,960,530 by the grade factor of 122% (1.22), to arrive at a RCN of $2,391,847 for the structure.

The final step in valuing the structure is to factor in depreciation to arrive at a full value for the structure today.

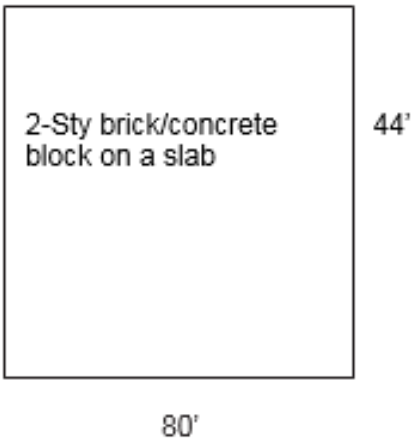
23. Look at the **Apartments REL Depreciation Table**. The structure was built 78 years ago, so it has an actual age of 78 years. The CDU of the structure is "poor." Look at the left column of Schedule A for 78 and then find the corresponding column for "poor," to arrive at an effective age of "101," based on its condition, desirability, and utility. Go to Schedule B and find the effective age of 101 years has an REL of 30. Take 30 percent of the RCN of $2,391,847 for a full value of $717,554 for the structure today.

24. There are no additional structures on the property, so it is not necessary to fill out the **Summary of Other Buildings** portion of the PRC-4.

Note: The PRC-3 is used to value land for apartment structures.

Exercise 5-1
Apartment Square Foot Schedules

8 Unit apartment



The subject property is a 10-year old, 2-story brick on concrete block, 8-unit apartment building with a total of 32 rooms. All areas of the building are finished into apartments and/or access arteries. The quality grade is “C” and the CDU is average. The land value is $82,300.

Foundation	Concrete footings and foundation
Wall Framing	Load bearing construction
Floors	Wood frame with wood floors
Exterior Walls	4” brick
Interior Finish	Finished divided with average grade finish
Heating/Central AC	All floors have a central warm air and air conditioning system
Roof	Wood frame with plywood deck and asphalt shingles
Plumbing/Sprinkler	56 residential plumbing fixtures, Type 1

Complete the PRC-4 on the next page.

Property Record - Commercial - Industrial

Exercise 5-1

Construction Specifications							Use						Data Bank		Description		Computation
Foundation							Store		Office		Vacant		SF Ground Area		Flr. Price x Ht. Adj.	WH	
Sprd. Ftg	X	Pile					Apt. **1 & 2**		WH		Abandoned		Eff. Perim LF			Bsmt.	
Caisson		Other					Factory						CF of Bldg.			1st Floor	
Wall Framing							No. of Units **8**						SF Wall Area			2nd Floor	
	B	1	2	3	A		Avg. Unit Size						Wall Ratio			3rd Floor	
Wood							No. Rooms Per Unit **4**						Sty. Sched.				
Steel O/FP							Prorated @ _____% with:										
Reinf. Concrete		X	X													Base Price	
Load Bearing		X	X												Size _____ x Shape _____ x Weight _____	BPA	
Frame Bay - Bay Area SF																Adj. Base Price	
Floors																Heat	
Wood		X	X													A/C	
Steel O/FP																Electrical Light	
Reinf. Concrete																Sprinkler	
Frame	Wood	Steel	Conc.														
Exterior Walls																	
Siding																	
Masonry Blk./Brk.																	
Steel																SF Price	
Glass																SF	
Brk Conc Blk		X	X													Subtotal	
Finish																Plumbing	
Unfinished																	
Finished Open																Partitions	
Finished Divd.		X	X														
																Front	
Heat																Canopy	
Cent. Wm. Air		X	X													Dock	
Ht. Wt/Steam																	
Unit Heaters																	
None															S C M I Grade	**Total**	
															C&D G NH A =FAC		
Air Conditioning															Eff. Age / Eff. Age / CDU / Age	Replacement Cost New	
Central		X	X														
Unit																Depreciation =	REL
																	Full Value
None																	

8-Unit apartment

44 '

2-Sty brk on concrete block slab

80 '

Roofing				
Composition		Shingle	X	
Slate		Metal		
Frame	Wood	Steel	Conc.	

Plumbing Type			
1	**56**	2	
3		4	
	Sprinkler		

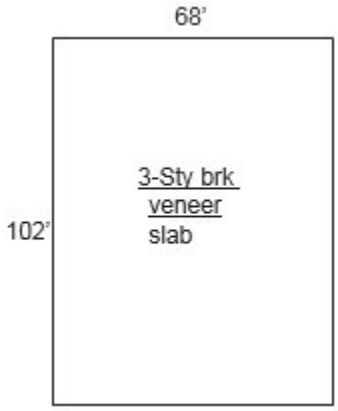
Summary of Other Buildings

Type	No.	Construction	Size	Rate	Grade	Age	CDU	Factor	Repl. Cost New	REL	Full Value

Listed by: | Total full value other buildings

Date: | Total full value all buildings

Exercise 5-2
Apartment Square Foot Schedules



The subject property is a 3-story brick veneer on wood studs apartment building, measuring 68 feet by 102 feet. The 24-unit apartment building was constructed 50 years ago. The quality grade is "C" and the CDU is average. The improvement is on a lot measuring 200 feet by 218.75 feet. Land value is $105,000.

Foundation	Concrete footings and foundation
Wall Framing	Load bearing construction
Floors	Wood frame and wood floors
Exterior Walls	Brick veneer
Interior Finish	Finished divided with average grade finish
Heating/Central AC	All 3 floors have a central warm air and air conditioning system
Roof	Wood frame with a flat composition cover
Plumbing/Sprinkler	168 residential plumbing fixtures, Type 1

Complete the PRC-4 on the next page.

Property Record - Commercial - Industrial

Exercise 5-2

Construction Specifications							Use						Data Bank		Description	Computation	
Foundation							Store		Office		Vacant		SF Ground Area		Flr. Price x Ht. Adj.	WH	
Sprd. Ftg		Pile					Apt.		WH		Abandoned		Eff. Perim LF			Bsmt.	
Caisson		Other					Factory						CF of Bldg.			1st Floor	
Wall Framing							No. of Units						SF Wall Area			2nd Floor	
	B	1	2	3	A		Avg. Unit Size						Wall Ratio			3rd Floor	
Wood							No. Rooms Per Unit						Sty.	Sched.			
Steel O/FP							Prorated @ _____% with:										
Reinf. Concrete																Base Price	
Load Bearing													Size	x Shape	x Weight	BPA	
Frame Bay - Bay Area						SF										Adj. Base Price	
Floors																Heat	
Wood																A/C	
Steel O/FP																Electrical Light	
Reinf. Concrete																Sprinkler	
Frame	Wood		Steel		Conc.												
Exterior Walls																	
Siding																	
Masonry Blk./Brk.																SF Price	
Steel																SF	
Glass																Subtotal	
Brk Veneer Wd Studs																Plumbing	
Finish																	
Unfinished																Partitions	
Finished Open																	
Finished Divd.																Front	
																Canopy	
Heat																Dock	
Cent. Wm. Air																	
Ht. Wt/Steam																	
Unit Heaters													S C M I		Grade	**Total**	
None													C&D	G	NH A	=FAC	
													Eff. Age	Eff. Age	CDU Age	Replacement Cost New	
Air Conditioning																	
Central															Depreciation =	REL	
Unit																**Full Value**	
None																	

68 '

102 '

3-Sty brk veneer
on wood studs
slab

Summary of Other Buildings

Type	No.	Construction	Size	Rate	Grade	Age	CDU	Factor	Repl. Cost New	REL	Full Value

Roofing					**Plumbing Type**			
Composition		Shingle			1		2	
Slate		Metal			3		4	
Frame	Wood	Steel	Conc.					
						Sprinkler		

Listed by:

Date:

Total full value other buildings

Total full value all buildings

Summary

Publication 126, Instructions for Commercial Schedules, has been developed to estimate the RCN of apartment buildings of more than six units. The RCN of apartments of six or less units is estimated using Publication 123, Instructions for Residential and Condominium Schedules.

The PRC-4 is used for estimating the RCN of apartments. On the card, a total square foot ground area (SFGA) cost is computed by adding the square foot cost of each floor. Because the base price for each floor is on an average unit size basis, it is not necessary to adjust the total square foot cost for the floor-to-wall ratio as is done with other commercial buildings. The average unit size is derived by dividing the square foot floor area of all finished areas, including corridors and access shafts, by the number of apartment units.

The base price for the apartment square foot schedule includes the cost of constructing the super structure except a basement. Also included in the base price are average quality walls, ceilings, and floor finishes; a typical amount for partitioning; interior walls; heating; central air-conditioning; electricity and lighting; kitchen cabinets; and 5 plumbing fixtures per apartment unit. The standard 5 plumbing fixtures are the bathroom toilet, bathroom basin, bathroom tub, kitchen sink, and hot water heater.

Unit 5 Review Questions

1. **T or F** When using the apartment schedules, you must consider a size adjustment, a wall height adjustment, a construction weight adjustment, and a shape adjustment.

2. **T or F** When using the REL table for apartment buildings, you must make a separate decision concerning the physical condition of the structure in comparison to similar structures. Then you must make a decision concerning the desirability and the utility of the structure.

3. **T or F** Using the apartment schedules, you must add for the cost of physical features not included in the base price.

4. An apartment building may have the following adjustments to the base price:
   a. Add for air conditioning
   b. Subtract for extra plumbing fixtures
   c. Deduct for the absence of air conditioning
   d. Add for extra windows.

5. A 3-story 15-unit brick on concrete block apartment building having a length of 90' and a width of 55' has a base price entered into the computation ladder of
   a. $554.75 per square foot
   b. $556.75 per square foot
   c. $525.75 per square foot
   d. $501.75 per square foot

6. If the above apartment building does not have any air conditioning, you will
   a. Place a -$180.55 in the computation ladder
   b. Have an adjustment of -$52.05 in the computation ladder
   c. Make and adjustment of -$17.35 in the computation ladder
   d. Make no adjustment

Unit 6

Using the Sales Comparison, or Market Approach, to Arrive at Value

This unit covers the sales comparison, or market approach, to arrive at value.

The purpose of this unit is to provide a basic understanding of the appraisal process and how the sales comparison method can be used to determine market value.

Learning Objectives

After completing the assigned readings, you should be able to

- explain the formula for sales comparison, or market approach.
- make the necessary market adjustments to the comparables.
- select the property that is more comparable to the subject property.

Terms and Concepts

- Sales Comparison, or Market Approach

Sales Comparison, or Market Approach

The sales comparison, or market approach, to value arrives at a value for the subject property by comparing it to comparable properties that have sold. Consideration must be given to all the tangible and intangible factors influencing value, such as location, construction, age, physical features, condition, desirability, and usefulness.

The appraiser adjusts the comparable sales to the subject property. If the comparable property is superior in some manner to the subject property, the sales price of the comparable property is adjusted downward to the subject property. Likewise, if the comparable property is inferior in some manner to the subject property, the sales price of the comparable property is adjusted upward to the subject property.

Three to five comparable properties must be used when conducting a sales comparison study. Generally, you will choose the one best property that has the fewest number of adjustments, NOT the one that has the lowest dollar amount of adjustments. The time adjustment does not count towards the total number of adjustments.

Remember,

SUPERIOR = SUBTRACT from the comp's sales price

INFERIOR = INCREASE, or ADD to the comp's sales price

Or,

CBS CIA – **Comparable Better Subtract, Comparable Inferior Add**

For example:

The subject property has 2 bedrooms. Comparable 1 has 3 bedrooms. We have determined from the market that an extra bedroom is worth + $1,000. Consequently, we subtract $1,000 from the comparable's sale price since 3 bedrooms is superior to the subject's 2 bedrooms.

Comparable 2 sold 2 years ago. We have determined that the market is increasing at a rate of $500 per month. Consequently, we increase the comparable's sale price by $12,000.
The significance of this approach lies in its ability to produce estimates of value that directly reflect the opinions of buyers and sellers in the market.

The first step in the sales comparison, or market approach, is to gather information on comparable properties that have sold. Once the information is gathered, analyze the properties to determine if any adjustments are needed. Based on this analysis, you should then determine the value of any adjustments to be made.

In this exercise, you will make adjustments to the comparable sales for various features that are different from those features found in the subject property. The features of the subject property are listed, and the instructions for making adjustments to the comparable properties are listed on the same page.

The 5 sales listed in the following exercise were selected as the most comparable to the subject property. The market data for each property is indicated on the grid.

Explanation of Adjustments

The subject property is a 4-bedroom home on a crawl space in a good location. An analysis of all residential property sales within the neighborhood indicates a monthly increase of $500.

The subject is on a crawl space. Add $1,000 for having a slab. Subtract $2,500 for having a basement.

The subject has 1 bathroom (3 fixtures), 1 kitchen sink, and 1 water heater. Subtract $500 for each extra plumbing fixture. (A half-bath contains 2 fixtures.)

The subject has 4 bedrooms. Add or subtract $1,500 for each variance.

The subject has a 1-car garage. Properties that do not have a garage are considered to be inferior. Add $3,000 for properties that do not have a garage. Properties that have a 2-car garage are considered superior. Subtract $5,000 for properties that have a 2-car garage.

The subject does have central air conditioning. Add $1,500 for those properties that do not have central air conditioning.

The subject has 1 fireplace. Add or subtract $1,200 for each fireplace in variance.

The subject property is in a good location. The appropriate adjustments have been determined through a study of recent sales and neighborhood analysis.

Note: Net adjustments will be in a lump sum dollar amount. A percent adjustment must be converted into a dollar amount.

The first comparable is 1306 Archer.

Using the grid that follows, make the following adjustments:

Time adjustment

Step 1:
The market has indicated an increase of $500 per month. The number of months, 5, is multiplied by the monthly increase amount of $500. The time adjustment for Comparable 1 is + $2,500.

Step 2:
The sales price of $75,000 is added to $2,500 for an adjusted sale price of $77,500.

Basement Adjustment
1306 Archer is built with a full basement, our subject property is built on a crawl space. A basement is considered to be superior to a crawl space, therefore an adjustment of - $2,500 is necessary.

Plumbing Adjustment
1306 Archer has 5 plumbing fixtures; our subject property has 5 fixtures. Since the number of fixtures is the same as the subject property, no adjustment is necessary.

Bedroom Adjustment
1306 Archer has 3 bedrooms; our subject property has 4 bedrooms. 3 Bedrooms is considered to be inferior to 4 bedrooms, so an adjustment of + $1,500 is necessary.

Garage Adjustment
1306 Archer has a 1-car garage, our subject property has a 1-car garage. Therefore, no adjustment is necessary.

Central Air Conditioning Adjustment
1306 Archer does not have central air conditioning; our subject property has central air conditioning. A home without central air conditioning is considered to be inferior, so a + $1,500 adjustment is necessary.

Fireplace Adjustment
1306 Archer has 1 fireplace; our subject has 1 fireplace. Since both features are the same, no adjustment is necessary.

Location Adjustment
1306 Archer is an inferior location. The adjusted sales price of $77,500 is multiplied by the location adjustment of + 2%, resulting in an adjustment of + $1,550.

Lot Size Adjustment
1306 Archer has a lot that is inferior in size. The size adjustment of + 6% is multiplied by the adjusted sales price of $77,500, resulting in an adjustment of + $4,650.

The final step is to determine what the net adjustment is for 1306 Archer. The net adjustment is found by computing a total for all of the individual adjustments. Once the net adjustment is determined, this is added to or subtracted from the adjusted sales price, which produces an indication of value for the subject property.

The net adjustment for Comparable 1 is + $6,700. This is added to the adjusted sale price of $77,500, resulting in an adjusted sales price of $84,200.

Following the steps outlined above, finish completing the data on Comparables 2 through 5. Each of the 4 sales will have various adjustments that will be superior or inferior adjustments.

Exercise 6-1

Listed below are 5 sale properties that are comparable to the subject property. Make the indicated adjustments to the comparable properties and determine the adjusted sale prices for each of the comparable properties.

Adjustments:
Slab: +$1,000; Basement: -$2,500
Plumbing: $500 per fixture
No Central Air: $1,500
Bedrooms: $1,500
Garage: None = +$3,000, larger = -$5,000
Fireplace: $1,200

Address	Comparable 1 1306 Archer	Comparable 2 814 Adams	Comparable 3 1414 State	Comparable 4 6607 Healey	Comparable 5 1209 Monroe
Sale Price	$75,000	$63,000	$69,500	$62,800	$59,700
Number of months since sale ($500/mo)	5	4	3	5	12
Adjusted sale price					
Foundation	Basement	Crawl	Basement	Basement	Slab
Number of plumbing fixtures	5	7	8	7	5
Number of bedrooms	3	4	4	3	3
Garage (# of stalls)	1	1	2	1	1
Central air conditioning	No	Yes	Yes	No	Yes
Number of fireplaces	1	0	2	1	0
Location adjustment	+2%	No adj.	-3%	+4%	No adj.
Lot size adjustment	+6%	No adj.	+2%	No adj.	No adj.
Net adjustment					
Total number of adjustments					
Final adjusted Sale Price **(Adj. sale price + net adj.)**					

Write the adjusted sales price and the number of adjustments for each sale.

	Final Adj. Sales Price	**No. of Adj.**
Comparable 1	_____	_____
Comparable 2	_____	_____
Comparable 3	_____	_____
Comparable 4	_____	_____
Comparable 5	_____	_____

After making all of the necessary adjustments and calculations, study the grid to determine the sale most comparable to the subject property. Once the comparable has been selected, values can be determined for the subject property.

Looking at the least number of adjustments, which sale is most comparable to the subject property?

_____

You should have selected Sale 2 as the property most comparable to the subject property because it required the least number of adjustments. The net adjustment for Sale 2 also happens to have the lowest dollar amount of the 5 comparables.

Summary

The sales comparison, or market approach to value arrives at a value for the subject property by comparing it to comparable properties that have sold. Consideration must be given to all the tangible and intangible factors influencing value, such as location, construction, age, physical features, condition, desirability, and usefulness.

If the comparable property that has sold is **superior** in some manner to the subject property, the sales price of the comparable property is adjusted **downward** to the subject property. Likewise, if the comparable property is **inferior** in some manner to the subject property, the sales price of the comparable property is adjusted **upward** to the subject property.

Unit 6 Review Questions

1. **T or F** When using the sales comparison, or market approach, one never adjusts the subject property.

2. **T or F** Make a minus adjustment to your comparable property if it is inferior to your subject property.

3. **T or F** If the market is showing an annual increase of 3 percent, a sale occurring 2 years ago would have a minus adjustment of 6 percent.

4. **T or F** Three to five sales are recommended when using the sales comparison, or market approach, to value property.

5. **T or F** The property most comparable to the subject is the comparable with the least number of adjustments.

Unit 6 Review Problem

Use the Sales Comparison Approach to arrive at a value for the subject property.

The subject property contains:
4 bedrooms, 2 bathrooms, air conditioning, 2 car garage

The adjustments are:

$1,200 per bathroom fixture
$2,000 per bedroom variance
$6,000 per garage variance
Time adjustment of +$500
No A/C $5,000
Location adjustment is 5%

Address	Sale 1	Sale 2	Sale 3	Sale 4	Sale 5
Sale Price	$115,700	$103,800	$100,500	$113,600	$112,100
Number of months since sale ($500/mo)	2	12	4	3	6
Adjusted sale price					
Number of bathrooms	2	1 ½	1	2	1 ½
Number of bedrooms	4	3	3	4	4
Garage (# of stalls)	1	1	2	2	1
Central air conditioning	Yes	Yes	No	No	Yes
Location adjustment	Inferior	Comparable	Superior	Comparable	Inferior
Net adjustment					
Total number of adjustments					
Final adjusted Sale Price (Adj. sale price + net adj.)					

The value the assessor would place on the property is: _____

The most comparable property is: _____

Answer the following questions:

a. The adjustment for bedrooms for Sale #2 is: _____
b. The time adjustment for Sale #5 is: _____
c. The adjustment for bathroom fixtures for Sale #4 is: _____
d. The location adjustment for Sale #1 is: _____
e. The adjustment for air conditioning for Sale #3 is: _____
f. The final adjusted sale price for Sale #2 is: _____
g. The adjustment for garages for Sale #5 is: _____

Unit 7

Using the Income Approach to Arrive at Value

This unit covers the income approach to arrive at value, and ways in which the IRV formula is used to calculate the income and capitalization rate for a property.

The purpose of this unit is to provide a basic understanding of the income approach to value.

Learning Objectives

After completing the assigned readings, you should be able to

- recite the formula for the income approach to value.

Terms and Concepts

- IRV Formula
- Building capitalization rate
- Land capitalization rate
- Net income (NI)
- Market Value
- Potential Gross Income (PGI)
- Vacancy and collection losses
- Effective gross income (EGI)
- Allowable expenses

The Income Approach

The three approaches to value are the sales comparison, or market approach; the cost approach; and the income approach. Residential property is not considered income-producing property unless it is used as rental property. Therefore, the income approach to value is generally not applicable when valuing residential property.

Income-producing property, such as parking lots, apartments, and offices are often valued on the basis of the net income these properties produce for their owners. The **income approach** has its widest application in the appraisal of income-producing property. Commercial property is often bought and sold on its ability to generate and maintain a stream of income for its owner. The value of such property is a measure of the amount, quality, and durability of the future net income the property can be expected to return to its owner.

The justified price paid for income-producing property is generally no more than the amount of investment required to produce a comparably desirable return. In addition, since the market can be analyzed to determine the net return actually anticipated by investors, it follows that the value of income-producing property can be derived from the income the property is capable of producing.

The process for converting the net income produced by property into an indication of its value is called **capitalization**. Capitalization is accomplished by dividing the net income of the property (I) by the capitalization rate (R). The result is an estimate of market value (V) of the property.

Market Value (V) = Net Income (I) ÷ Capitalization Rate (R)

Any one of the factors of the formula can be determined if the other two factors are known.

IRV Formula: $\frac{I}{R \times V}$

- **I** refers to the net income.

To arrive at the net income, use the following formula:

Potential Gross Income (PGI)
- Vacancy and collection losses
+ Miscellaneous income

Effective Gross Income (EGI)
- Allowable expenses
- Reserves for replacements (RR)

Net Income (NI)

The **potential gross income (PGI)** is the economic rent for a property at 100 percent occupancy. When estimating the PGI, it is important to base it on economic, or market rent, which may not be the same as contract rent. Economic or market rent is rent based on market standards, or the rent of similar properties in the area. Contract rent is the rent the property is actually receiving, based on a lease or other agreement.

It is highly unlikely that a property will be rented to 100 percent capacity at all times, so a deduction for "**vacancy losses**" is allowed. The amount of the deduction is based on market standards, or the vacancy rate typical for the area. Deductions are also allowed for "**collection losses**." Collection losses are losses that result from tenants' failure to pay rent. These losses are also based on market standards. The amounts deducted will be a percentage of the PGI.

The **effective gross income (EGI)** is calculated by estimating the PGI, subtracting the appropriate amounts for vacancy and collection losses, and adding any miscellaneous income.

From the EGI, the allowable expenses and reserves for replacements are subtracted to arrive at the **net income (NI)**.

Allowable expenses are the expenses necessary for the operation of the business to keep it competitive with other properties in the area. Some examples of allowable expenses are salaries, utilities, management, insurance, supplies, materials, repairs and maintenance.

For assessment purposes, property taxes and mortgage interest are not allowable expenses. They are taken into consideration in the capitalization rate. Other items not considered allowable expenses are income taxes, depreciation, capital improvements, and the owner's business expenses that are not necessary for maintaining the rent produced by the property.

The final deduction is for **reserves for replacements**. The parts of a structure that must be replaced before the building reaches the end of its economic life have an annual

expense deduction. Examples of items for this category include carpeting, floor coverings, roofing, appliances, heating, and air-conditioning.

- **R** refers to the capitalization rate that consists of the equity rate, mortgage interest rate, and effective tax rate.

Equity Rate - annual rate at which invested capital is returned to the investor over a specified period.

Effective Tax Rate - tax rate expressed as a percentage of market value. This is found by multiplying the level of assessments by the current local (aggregate) tax rate.

Mortgage Interest Rate - interest rate used to convert future payments or receipts into present value.

Both Building and Land capitalization rates are comprised of

- An equity rate,
- An effective tax rate, and
- A mortgage interest rate.

- **V** refers to market value.

Selecting the proper capitalization rate and accurately estimating a realistic potential gross income, along with applicable operating expenses, are essential to the capitalization process.

The IRV formula can be used to determine any one of the three factors. If you cover up the letter representing the component you are trying to determine, the formula for determining the value of that component is left.

- To find the income of a property, cover up the “I” in the formula so you are left with **R ⋅ V .** Multiply the appropriate capitalization rate “R” by the value “V.”

- If you know the net income of a property and the value, to find the appropriate capitalization rate, cover up the “R” in the formula so you are left with $\frac{I}{V}$
  Divide the net income “I” by the value “V.”

- To determine the value of the property cover up the “V” in the formula so you are left with $\frac{I}{R}$

Divide The net income “I” by the capitalization rate “R.”

It can readily be seen that any one of the factors of the IRV formula can be determined if the other two factors are known.

Example of Determining a Value

An apartment building has 15 units that rent for $500 per month. The allowable expenses are $50 per unit, per month. The appropriate capitalization rate is 10.25 percent. What is the value of the building?

In order to arrive at a value, you need the net income and appropriate capitalization rate.

1. Determine the potential gross income.
   15 (units) x $500 x 12 (months) = $90,000

2. Determine the annual allowable expenses.
   15 (units) x $50 x 12 (months) = $9,000

3. Determine the net income (PGI – allowable expenses).
   $90,000 - $9,000 = $81,000

4. Apply the IRV formula
   "V" = "I" divided by "R"

   $$I = \frac{\$81,000}{R = 10.25\%} = \$790,244$$

   The value of the property is $790,244.

Note: You will not be responsible for calculating values using the income approach in this residential course.

Summary

$$\frac{I}{R \bullet V}$$

I = Net income

R = Capitalization rate

V = Market value

To arrive at the net income, use the following formula:

Potential Gross Income (PGI)

\- Vacancy and collection losses

\+ Miscellaneous income

_____

Effective Gross Income (EGI)

\- Allowable expenses

\- Reserves for replacements (RR)

_____

Net Income (NI)

Unit 7 Review Questions

1. What is the formula for the income approach? _____

Match these terms to the correct definition. Some terms may require more than one definition.

A = Equity Rate

B = Income Taxes

C = Certain amount set aside over a period of time for wear and tear items to be replaced

D = Effective tax rate

E = Real estate taxes

F = Based on 100 percent occupancy using economic rent versus contract rent

G = Mortgage interest rate

_____ Potential Gross Income

_____ Land capitalization rate

_____ Unallowable expenses

_____ Building capitalization rate

_____ Reserve for replacements

Unit 8

Land Valuation

This unit covers land valuation using the sales comparison, or market approach method.

The purpose of this unit is to provide a basic understanding of calculating land values using the sales comparison, or market approach method.

Learning Objectives

After completing the assigned readings, you should be able to

- explain the basic methods for valuing land.
- define the front foot method of valuing land.
- apply the sales comparison, or market approach method, to value land.

Terms and Concepts

- Front foot value
- Square foot value
- Site value
- Corner lot influence

Land Valuation

The assessor is responsible for placing a value on both land and improvements for each parcel of property located in the jurisdiction. A number of principles are involved in land valuation.

Land is valued as vacant and at its highest and best use, meaning the use that will bring the greatest net return to the property over a reasonable period of time.

Highest and best use must be

1. **Legal** – Use complies with zoning laws, not unlawful, *etc.*
2. **Probable or physically possible** – Use is reasonable, not speculative.
3. **Economically feasible** – Use is in demand, profitable.

Land and site have different meanings. Land is considered to be raw land without amenities, such as streets and utilities. Site is defined as a parcel that has been made ready for its intended purpose.

When valuing residential land, the assessor must first determine the most appropriate unit of value to be used in a particular area. The three most common units of value are

1. **Front foot value** — the amount of frontage is the most significant factor in determining value.
2. **Square foot value** — the size is the most significant factor in determining value and is also used to value irregular-shaped lots.
3. **Site value** — the location is the most significant factor in determining value.

When valuing rural residential land, the sales comparison, or market approach, is the most appropriate approach to value.

Corner Lots

An adjustment may also need to be made for corner lots. Corner influence factors should be developed by using actual market transactions. As with all other factors and tables, they must be localized, or extracted from the local market, to be of benefit in a particular jurisdiction. In some markets, a corner lot may bring less than an interior lot because of greater traffic and the possibility of paying higher special assessments based on frontage. In many markets, there is no corner influence factor.

Exercise 8-1: Sales Comparison or Market Approach

As discussed in Unit 6, when using the sales comparison, or market approach to value, the assessor arrives at a value for the subject property by comparing it to comparable properties that have sold. Consideration must be given to all the tangible and intangible factors influencing value. Adjustments to the comparable sales may be necessary for the time of sale, the location of property, the physical features of the property, such as flat, rolling, trees, *etc.,* condition, desirability, and usefulness.

Use the **sales comparison, or market approach,** to appraise the six lots as follows, based on the indicated market values of the eight recent lot sales listed in Part 1. Using the sales information for these eight lots, determine whether there are any factors, such as view, corner influence, and topography that impact the lot's valuation for each of the six lots. The site unit of comparison is the most appropriate unit of value.

Use the worksheet that follows for this exercise.

Step 1

The first sale is identified by the PIN.

05	21	101	003
Area	Section	Block	Parcel

The block number 101 indicates the block where the parcel is located. The parcel number 003 indicates the parcel within block 101. Identify this parcel by writing the sale price on the map where the parcel is located. The sale price for parcel 003, in block 101, is $43,000.

Write the sale price on each of the seven remaining parcels listed in Part 1 of the worksheet to identify the location and sale price on the map.

Step 2

Determine a value for the six lots listed in Part 2 of the worksheet, based on recent sales information. The first lot is identified by the PIN

05	21	101	005
Area	Section	Block	Parcel

The block number 101 indicates the block where the parcel is located. The parcel number 005 indicates the parcel within block 101 you need to value. Parcel 003 in block 101 sold recently for $43,000. The sale is recent and the location is similar to this lot, therefore you can support a similar value of $43,000 for parcel 005.

Step 3

The next lot is identified by the PIN

05	21	102	013
Area	Section	Block	Parcel

Parcels 012 and 014, in block 102, recently sold for $42,500. The sales are recent and each of the sales is located adjacent to this lot. You can support a similar value of $42,500, based on comparing these recent sales to parcel 013.

Step 4

The next lot to appraise is identified by the PIN

05	21	105	001
Area	Section	Block	Parcel

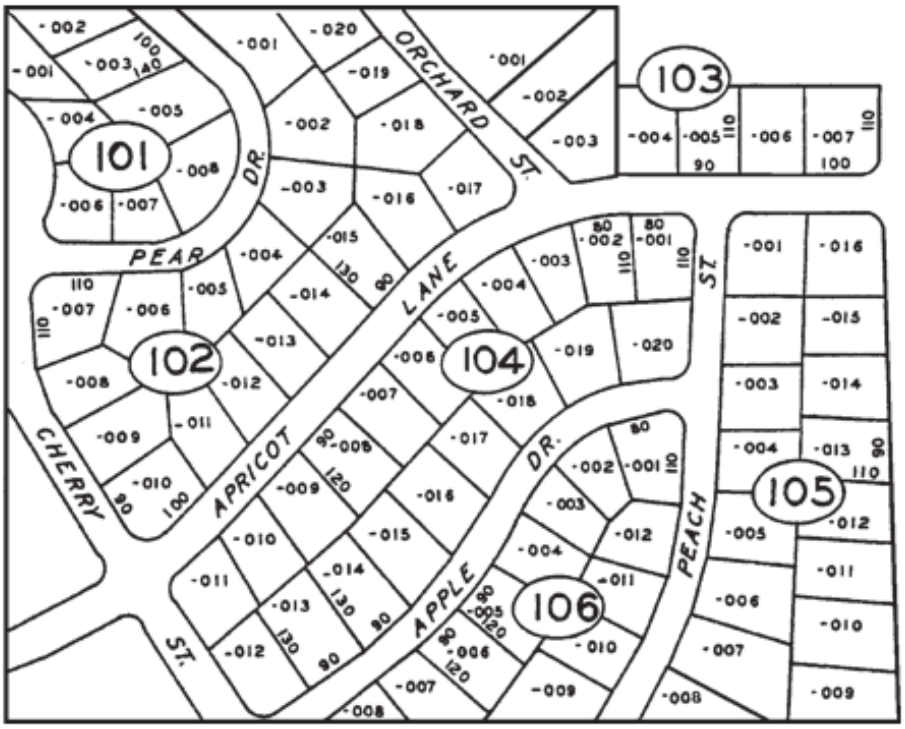
The recent sales information indicates that parcel 001, in block 104, and parcel 001, in block 106, have sold for $45,000. Based on a sales comparison of these lots to the subject lot, you can support a similar value of $45,000.

The indicated site value for interior lots on this portion of the land value map, regardless of frontage or depth is approximately $42,500 — $43,000. Further analysis of the market indicates that corner lots are selling for approximately $2,000 — $2,500 more than interior lots, regardless of size.

Step 5

Complete the three remaining sales comparisons for this subdivision.

Exercise 8-1 Worksheet: Sales Comparison or Market Approach



You are appraising lots in a subdivision that began development five years ago. All of the lots are level with mature trees. The area surrounding the subdivision is wooded and undeveloped. Based on the eight lots that have sold recently, what is the indicated value of the lots you are appraising?

Part 1: Recent Sales in the Subdivision

Write each sale price on the applicable parcel.

05-21-101-003	$43,000	05-21-104-007	$43,000
05-21-102-012	$42,500	05-21-104-001	$45,000
05-21-102-014	$42,500	05-21-104-010	$43,000
05-21-103-004	$43,000	05-21-106-001	$45,000

Part 2: Write the indicated value of these lots.

05-21-101-005	$_____	05-21-105-001	$_____
05-21-102-013	$_____	05-21-105-007	$_____
05-21-104-014	$_____	05-21-106-010	$_____

Exercise 8-2: Demonstration of Adjustments from Market Analysis

In the previous exercise, it was noted that the lots were all level with mature trees, the areas surrounding the lots were wooded and undeveloped, and the sales were all recent. No adjustments were necessary to arrive at a value.

In this exercise, by using the sales comparison, or market approach, method, you will determine the value of adjustments that would be needed to adjust the comparables to the subject property.

You are appraising a subdivision that began to be developed 10 years ago. Now, it is nearing the end of its development life cycle. Approximately 70 percent of the sites are interior sites, lots with trees and sites with level terrain. The remaining 30 percent consists of corner sites, sites with no trees and sites with rolling terrain. It appears that the market responds to differences in location and physical features.

The seven sales listed below have been verified as arm's-length transactions. Using the market data, determine the contributory value for time, location, and physical features.

Site	Sales Price	Sale Date	Size	Location	Physical Features
1	$19,000	Current	75 x 200	Interior	Level, trees
2	$18,500	Current	75 x 200	Corner	Level, trees
3	$20,000	Current	75 x 200	Interior	Rolling, trees
4	$19,000	1 Year Ago	75 x 200	Interior	Rolling, trees
5	$18,000	Current	75 x 200	Interior	Level, no trees
6	$16,500	1 Year Ago	75 x 200	Corner	Level, no trees
7	$17,500	Current	75 x 200	Corner	Level, no trees

Step 1

Analyze the information shown to determine common and variable features. Note which lots have like sale dates, locations, and physical features, such as level, rolling, trees, no trees.

Step 2

Compare the values associated with the various features.

Step 3

Determine values for the adjustments.

1. Based on the above sales, a site that sold today is worth $_____ more than a site that sold a year ago.

   Hint: By comparing Sites 3 and 4 and Sites 6 and 7, note that all other variables are equal, such as rolling, with trees, interior locations. The only variables are the dates of the sales. Therefore, by comparing the values, we could arrive at a value for time adjustment of $1,000.

2. A site that is on rolling terrain is worth $_____ more than a site on level terrain.

   Hint: Look at Sites 1 and 3.

3. A site that has trees is worth $_____ more than a site without trees.

   Hint: Remember that you want to look at sites whose features match except for the physical feature of trees.

   Sites _____ and _____ & Sites _____ and _____

4. An interior site is worth $_____ more than a corner site.

   Hint: Sites _____ and _____ & Sites _____ and _____

After determining the appropriate values for the variables, you could then use this information to adjust any of the properties you needed to value.

Use the values established previously to make the necessary adjustments to the comparables listed below. Use the sales comparison, or market approach, method to arrive at a value for our subject property.

The subject property is a 75 x 200 foot lot. It is an interior lot with level terrain and nice trees.

Comparable 1 sold one year ago for $35,000. It is an interior lot with rolling terrain and nice trees.

Comparable 2 sold recently for $35,500. It is a corner lot with level terrain and nice trees.

Comparable 3 sold one year ago for $35,000. It is an interior lot with rolling terrain and no trees.

1. Write the adjusted value for Comparable 1. $_____
2. Write the adjusted value for Comparable 2. $_____
3. Write the adjusted value for Comparable 3. $_____
4. Based on the three sales provided, what is the value for the subject property?

   $_____

Summary

The assessor is responsible for determining the value of both the land and the improvements for all properties located in his or her jurisdiction. **Land** is valued as vacant and at its highest and best use.

Several principles may be used to value land. The three most common units of value are **front foot value**; **square foot value; and site value**.

In the sales comparison, or market approach to value, the assessor arrives at a value for the subject property by comparing it to similar properties that have sold.

Unit 8 Review Questions

1. When valuing residential land in rural areas, the

   _____ or _____

   approach to value is the best method to use.

2. List three adjustments that may be necessary to determine a value when comparing property that has sold.

   a. _____

   b. _____

   c. _____

3. Does the location of a property on a corner affect the value?

   _____

Exam Preparation

Examination Information

- The exam consists of 50 multiple choice questions.
- Each question is worth an equal number of points when the exam is graded.
- There is only one best answer for each question on the examination.
- Two hours are allotted for completion of the exam.
- The exam is closed book. All class materials, papers, computers, and cellular devices must be removed from the table before taking the exam.
- Cellular phones may not be used as calculators.

Test-Taking Strategies

- Read each question thoroughly and choose the one best answer provided.
- Review the answer sheet for any skipped answers or multiple answers for the same question.
- Tips for taking a multiple-choice exam:
    - Some test-takers prefer to answer questions that they are confident in the answers first and choose to skip over harder questions or questions that involve math calculations. If this is done, be sure to complete the correct answer on the answer sheet for the questions being answered. The answer sheets are graded by hand, so question numbers may be circled so that they can be easily identified during the second pass through the exam.
    - Be mindful of the time allotted. If a question is taking a lot of time to answer, move past it and come back to it at a later time.
    - Guessing an answer is better than leaving it blank if time becomes an issue.

Answer Key

Units 1 through 8

Unit 1 Review Questions

1. Define *ad valorem* tax. **A tax that is based on the value of the property owned. It is assessed according to value.**

2. **Property Tax** is the major source of tax revenue for local governments.

3. What are the two classifications of property?
    a. **Real**
    b. **Personal**

4. The largest share of property tax goes to **schools**.

5. List three approaches to value.
    a. **Sales Comparison or Market Approach**
    b. **Cost Approach**
    c. **Income Approach**

6. What four steps are involved in the assessment of any property?
    a. **Identifying the real property**
    b. **Listing it**
    c. **Appraising it**
    d. **Placing a value on the tax rolls**

7. What three types of properties are assessed by the state?
    a. **Railroad operating property**
    b. **Pollution control facilities**
    c. **Water treatment facilities**

8. What happens if an individual does not pay his or her taxes?
    The county treasurer prepares a delinquent tax list and publishes in a newspaper. If unpaid, the courts order a lien for unpaid taxes, penalty, and fees to be sold at a tax sale.

9. Who has the statutory authority to review assessments made by the township assessor and make changes when deemed necessary?
    a. **CCAO**
    b. **Board of Review**

10. List in order, the offices that actually handle the assessment books, from the time they are created until the taxes are extended.
    a. **County Clerk**
    b. **CCAO**
    c. **Township Assessor**
    d. **CCAO**
    e. **Board of Review**
    f. **County Clerk**

11. Property is valued as to its condition on **January 1**, the assessment date.

12. The **Board of Review** makes the final decision on property values at the county level.

Unit 2 Exercise 2-1 worksheet — Cost Factor Study

Sale Number	Age	Sale Price	-	Lot Value	=	Building Residual	÷	Pub Value	=	Cost Factor
1	**N**	$104,000		$17,000		$87,000		$82,300		1.06
2	**N**	$ 97,700		$17,000		**$80,700**		$78,400		**1.03**
3	**N**	$ 67,800		$10,500		$57,300		$54,500		1.05
4	**N**	$ 62,900		$ 8,000		**$54,900**		$51,800		**1.06**
5	**N**	$ 85,600		$15,500		$70,100		$63,700		1.10
6	**N**	$ 89,200		$16,000		**$73,200**		$63,100		**1.16**
7	**N**	$ 80,300		$16,000		$64,300		$61,200		1.05
8	**N**	$ 88,300		$16,500		**$71,800**		$69,000		**1.04**
9	**30**	$ 53,500		$ 8,000		$45,500		$47,900		.95
10	**N**	$ 93,100		$16,500		**$76,600**		$72,100		**1.06**
11	**N**	$ 76,700		$16,500		$60,200		$58,300		1.03
12	**N**	$ 86,500		$16,000		**$70,500**		$66,500		**1.06**
13	**44**	$ 67,900		$11,000		$56,900		$59,300		.96
14	**N**	$ 92,700		$16,000		**$76,700**		$69,500		**1.10**
15	**12**	$ 72,400		$11,000		$61,400		$60,200		1.02

Rank

1. **1.03**
2. **1.03**
3. **1.04**
4. **1.05**
5. **1.05**
6. **1.06**
7. **1.06**
8. **1.06**
9. **1.06**
10. **1.10**
11. **1.10**
12. **1.16**
13. _____
14. _____
15. _____

1.06 + 1.06 = 2.12
2.12 ÷ 2 = 1.06
Median = 1.06

Note: Sales 9, 13, and 15 are not used because the properties are over one year in age.

Unit 2 Review Questions

1. What are the three types of depreciation? Place a check mark next to the one that is generally incurable.

_____	**Physical**
_____	**Functional**
X	**Economic**

2. What is the purpose of a cost factor?

   To adjust Publication 123's values to the local labor and material rates.

3. What is a mass appraisal system?

   The valuation of many properties as of January 1 of the assessment year, using standard procedures that provide uniformity.

Unit 3

Exercise 3-1 – Multiplying Factors

Cost	X	Design	X	Neighborhood	X	Appraiser	=	Factor
1.06	x	1.03	x	1.02	x	1.04	=	1.16
1.06	x	1.00	x	.98	x	.98	=	**1.02**
1.06	x	1.05	x	1.00	x	1.00	=	**1.11**
1.06	x	1.01	x	1.10	x	1.00	=	**1.18**

Unit 3 Review Questions

1. What type of quality does the quality grade factor “D” represent and what is the factor applied from the schedules?

   Cheap Quality – 82% or .82

2. A local assessor notices that an improvement has been greatly neglected and its physical condition is extremely poor. He or she notes that this particular improvement was originally built with excellent materials and workmanship. Which one of the following will the assessor adjust?

   _____ Cost

   _____ Quality Grade

   __**X**__ CDU rating used to determine the REL factor

3. Quality grade refers to the **quality of materials and workmanship.**

4. **False** PRC-2 is used for calculating land values.

5. **False** Air Conditioning is included in the base cost on the cost schedules for residential assessment purposes.

6. List the five plumbing fixtures that are included in the base cost on the residential cost schedules for assessment purposes.

   Kitchen sink, hot water heater, toilet, bathroom sink, bathtub

Building Record - Residential - Rural (Property - Type 1)

Exercise 4-1

PRC-2 for 03-10-108-011-0040

Occupancy

1 Vacant Lot	2 Dwelling	3 Other	4 Mobile Home	5 A Frame	6 Summer Home	7 Apt.

Living Accommodations

Total Rooms	Bedrooms	Family Room
5	2	

Foundation

8 " Msy. Wall — Pier

Basement

1 Full	3 Crawl	4 Slab

Area without bsmt. — SF

Heating

1 None	2 Central	3 Air Condition	4 Other
Warm air			X
Hot water/Steam			
Floor furnace			
Unit heaters			
Other			

Plumbing

Standard (5)	X
Bathroom (3)	
Half bath (2)	X
Sink/Lavatory water closet	

Attic

1 None	2 Unfinished	3 Part	4 Full

% finished

Exterior Walls

Wood/stucco/aluminum/vinyl siding	X
Concrete block	
Brick/stone TRIM	X
Other	

Roof

Shingle - asphalt/asbestos/wood	X
Slate/tile	
Composition	
Other	

Floors

	B	1	2	3	
Concrete	X				
Wood					
Tile		X			
Carpet		X			

Interior Finish

	B	1	2	3	
Plaster/dry wall		X			
Fiberboard					
Paneling					

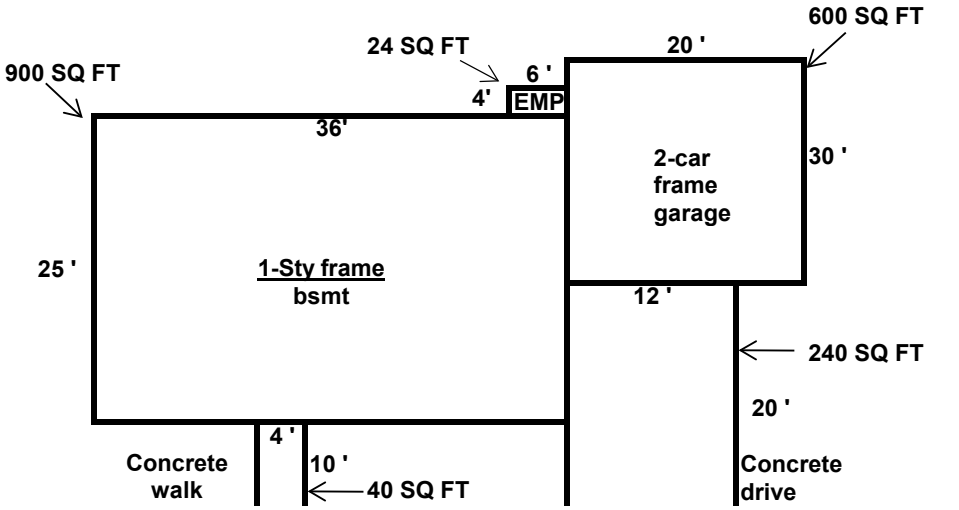
Features	SF	Quality	Type
Pt. Msy Trim	288	C	Brk[1] Stone[2] Art[3]
Finished			Living
Basement			Recreation
Fireplaces			Stacks
Integral garage		On grade [1]	Below [2]
Attached garage	600	Frm1 Msy.2	Carport3

Remodeled — Sold Date Mo. Day Yr.

NH — Amount $

Memo

Condo. Comm.	Porch	24 SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]
Prorated %	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]
With:	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]
	Wd. deck	SF	Wood deck [6]



Age 15	Adj. Age	
CDU Average		
Grade C		
Dwelling Computations		
1 Sty. FRM. Constr.		900 SF
Sty. Constr.		SF
900	SF	94,050
Basement unfinished		+9,740
Heating/Central air		+2,730
Sched. Comb.		
Plumbing + 2		+3,770
Attic		
Porches 24 sq ft EMP		+2,935
27.30 x 600		
Attach./Integral garage +		+16,380
Total		129,605
Grade C		1.00
Total		129,605
Other features		
Pt. msy. Walls 288 sq ft		3,384
Fireplace		
Finished basement		
Total		132,989
C x D		
NH x AP		1.06
Replacement cost new		140,968
Eff. Age 15	REL	
Depr. 16%	84%	0.84
S C M I	Full Value	118,413

Summary of Other Buildings

Type	No.	Construction	Size	Rate	Grade	Age	CDU	Factor	Repl. Cost new	REL	Full Value
Garage (detached)		Frm[1] Msy.[2] Carport[3]									
Drive	1	Concrete	240	4.90	1.00	15	Avg.	1.06	1,247	0.84	1,047
Walk	1	Concrete	40	4.90	1.00	15	Avg.	1.06	208	0.84	175

Listed by:

Date:

Total full value other buildings: 1,222

Total full value all buildings: 119,635

Building Record - Residential - Rural (Property - Type 1)

Exercise 4-2

PRC-2 for 04-01-406-002-0040

Occupancy

1 Vacant Lot	2 Dwelling	3 Other	4 Mobile Home	5 A Frame	6 Summer Home	7 Apt.

Living Accommodations

Total Rooms	Bedrooms	Family Room
8	4	--

Foundation: 8" Msy. Wall — Pier

Basement

1 Full	3 Crawl	4 Slab

Area without bsmt. SF

Heating

1 None	2 Central	3 Air Condition	4 Other

Warm air	X
Hot water/Steam	
Floor furnace	
Unit heaters	
Other	

Plumbing

Standard (5)	X
Bathroom (3)	
Half bath (2)	
Sink/Lavatory water closet	

Attic

1 None	2 Unfinished	3 Part	4 Full
		% finished	

Exterior Walls

Wood/stucco/aluminum/vinyl siding	X
Concrete block	
Brick/stone	
Other	

Roof

Shingle - asphalt/asbestos/wood	X
Slate/tile	
Composition	
Other	

Floors

	B	1	2	3	
Concrete		X			
Wood		X	X		
Tile		X	X		
Carpet					

Interior Finish

	B	1	2	3	
Plaster/dry wall		X	X		
Fiberboard					
Paneling					

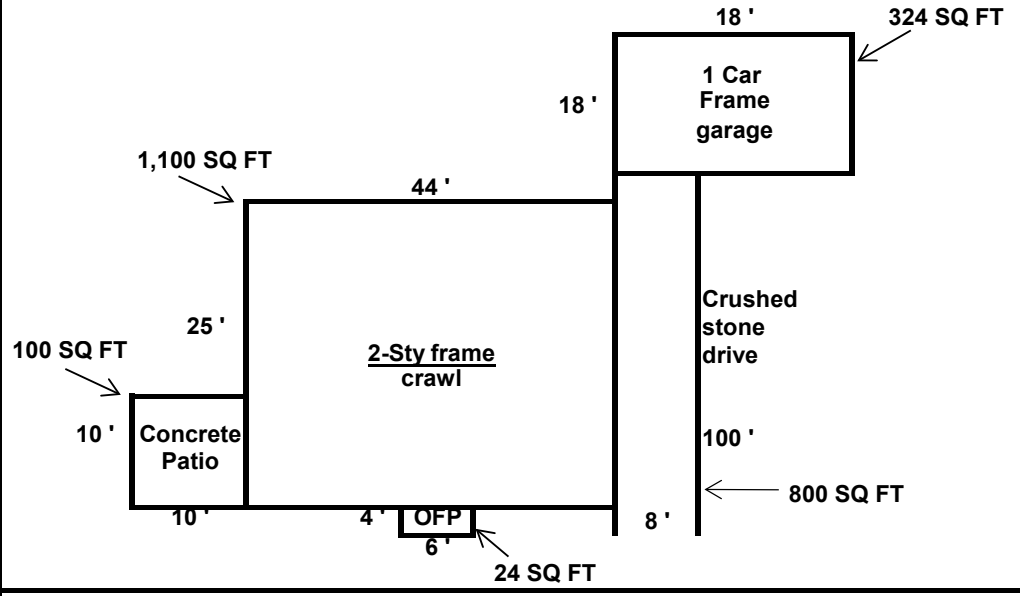
Features	SF	Quality	Type
Pt. Msy Trim			Brk[1] Stone[2] Art[3]
Finished			Living
Basement			Recreation
Fireplaces			Stacks
Integral garage		On grade [1]	Below [2]
Attached garage		Frm1 Msy.2	Carport3

Remodeled — Sold Date Mo. Day Yr.

NH — Amount $

Memo

Condo. Comm.	Porch	24 ' SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]
Prorated %	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]
With:	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]
	Wd. deck	SF	Wood deck [6]



Age 65 yrs	Adj. Age
CDU Poor	
Grade D	
Dwelling Computations	
2 Sty. FRM Constr. 1,100 SF	
Sty. Constr. SF	
1,100 x 2	+187,550
Basement CRAWL	+7,860
Heating/Central air	
Sched. Comb.	
Plumbing + -	
Attic	
Porches 24 SQ FT OFP	+1,120
Concrete patio 100 SQ FT	
Attach./Integral garage +	
Total	196,530
Grade	.82
Total	161,155
Other features	
Pt. msy. Walls	
Fireplace	
Finished basement	
Total	161,155
C x D	
NH x AP	1.06
Replacement cost new	170,824
Eff. Age 78 / Depr. 61%	REL 39% / .39
S C M I	Full Value 66,621

Summary of Other Buildings

Type	No.	Construction	Size	Rate	Grade	Age	CDU	Factor	Repl. Cost new	REL	Full Value
Garage (detached)	1	rm[1] Msy.[2] Carpor	324	39.45	D / .82	65	Poor	1.06	11,110	0.39	4,333
Drive	1	Crushed stone	800	0.65	D /.82	65	Poor	1.06	452	0.39	176
Patio	1	Concrete	100	6.35	D/.82	65	Poor	1.06	552	0.39	215

Listed by:

Date:

Total full value other buildings 4,724

Total full value all buildings 71,345

Building Record - Residential - Rural (Property - Type 1)

Exercise 4-3

PRC-2 for 03-33-333-009-0040

Occupancy

1 Vacant Lot	2 Dwelling	3 Other	4 Mobile Home	5 A Frame	6 Summer Home	7 Apt.
	(2)					

Living Accommodations

Total Rooms	Bedrooms	Family Room
6	3	0

Foundation

8 " Msy. Wall — Pier

Basement

1 Full	3 Crawl	4 Slab
(1)		

Area without bsmt. — SF

Heating

1 None	2 Central	3 Air Condition	4 Other
	(2)	(3)	
Warm air			X
Hot water/Steam			
Floor furnace			
Unit heaters			
Other			

Plumbing

Standard (5)	X
Bathroom (3)	X
Half bath (2)	X
Sink/Lavatory water closet	

Attic

1 None	2 Unfinished	3 Part	4 Full
(1)			

% finished

Exterior Walls

Wood/Stucco/Aluminum/Vinyl	
Concrete block	
(Brick)/stone	X
Other	

Roof

Shingle - asphalt/~~asbestos/wood~~	X
Slate/tile	
Composition	
Other	

Floors

	B	1	2	3	
Concrete	X				
Wood		X	X		
Tile	X	X	X		
Carpet					

Interior Finish

	B	1	2	3	
Plaster/~~dry wall~~		X	X		
Fiberboard					
Paneling					

Features	SF	Quality	Type
Pt. Msy Trim			Brk[1] Stone[2] Art[3]
Finished			Living
Basement			Recreation
Fireplaces	#		Stacks #
Integral garage		On grade [1]	Below [2]
Attached garage	625	Frm[1] (Msy.[2])	Carport[3]

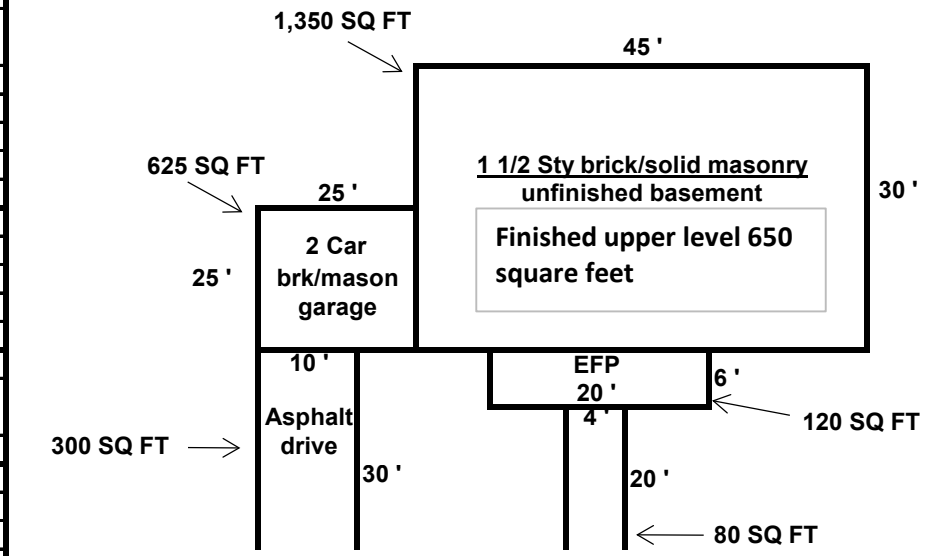
Remodeled — Sold Date Mo. Day Yr.

NH — Amount $

Memo

Condo. Comm.	Porch	120 SF	(OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5])	
Prorated %	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]	
With:	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]	
	Wd. deck	SF	Wood deck [6]	

Porches



Age 56	Adj. Age	
CDU Good		
Grade C		
Dwelling Computations		
1 1/2 Sty. Brick Constr.	1,350 SF	
Sty. Constr.	SF	
1,350 + 650		209,350
Basement		+13,131
Heating/Central air		+4,950
Sched. Comb.		
Plumbing + 5		+9,425
Attic		
Porches 120 SQ FT		+6,340
37.60 x 625		
Attach./~~Integral~~ garage +		+23,500
Total		266,696
Grade C		1.00
Total		266,696
Other features		
Pt. msy. Walls		
Fireplace		
Finished basement		
Total		266,696
C x D		1.06
NH x AP		
Replacement cost new		282,698
Eff. Age 46	REL	
Depr. 45%	55%	.55
S C M I	Full Value	155,484

Summary of Other Buildings

Type	No.	Construction	Size	Rate	Grade	Age	CDU	Factor	Repl. Cost new	REL	Full Value
Garage (detached)		Frm[1] Msy.[2] Carport[3]									
Drive	**1**	**Asphalt**	**300**	**2.90**	**C / 1.00**	**56**	**Good**	**1.06**	**922**	**.55**	**507**
Walk	**1**	**Concrete**	**80**	**4.90**	**C / 1.00**	**56**	**Good**	**1.06**	**416**	**.55**	**229**

Listed by:

Date:

Total full value other buildings: 736

Total full value all buildings: 156,220

Building Record - Residential - Rural (Property - Type 1)

Exercise 4-4 Example of an examination PRC-2

Occupancy

1 Vacant Lot	2 Dwelling	3 Other	4 Mobile Home	5 A Frame	6 Summer Home	7 Apt.
	(2)					

Living Accommodations

Total Rooms	Bedrooms	Family Room
7	3	1

Foundation: 8" Msy. Wall — Pier

Basement

1 Full	3 Crawl	4 Slab
(1)		(4)

Area without bsmt. 400 SF

Heating

1 None	2 Central	3 Air Condition	4 Other
	(2)	(3)	

Warm air	X
Hot water/Steam	
Floor furnace	
Unit heaters	
Other	

Plumbing

Standard (5)	X
Bathroom (3)	X
Half bath (2)	
Sink/Lavatory water closet	

Attic

1 None	2 Unfinished	3 Part	4 Full
(1)			

% finished

Exterior Walls

Wood/stucco/aluminum/vinyl siding	
Concrete block	
Brick/solid masnory	X
Other	

Roof

Shingle - asphalt/~~asbestos/wood~~	X
Slate/tile	
Composition	
Other	

Floors

	B	1	2	3	
Concrete	X				
Wood		X			
Tile					
Carpet		X			

Interior Finish

	B	1	2	3	
Plaster/~~dry wall~~		X			
Fiberboard					
Paneling					

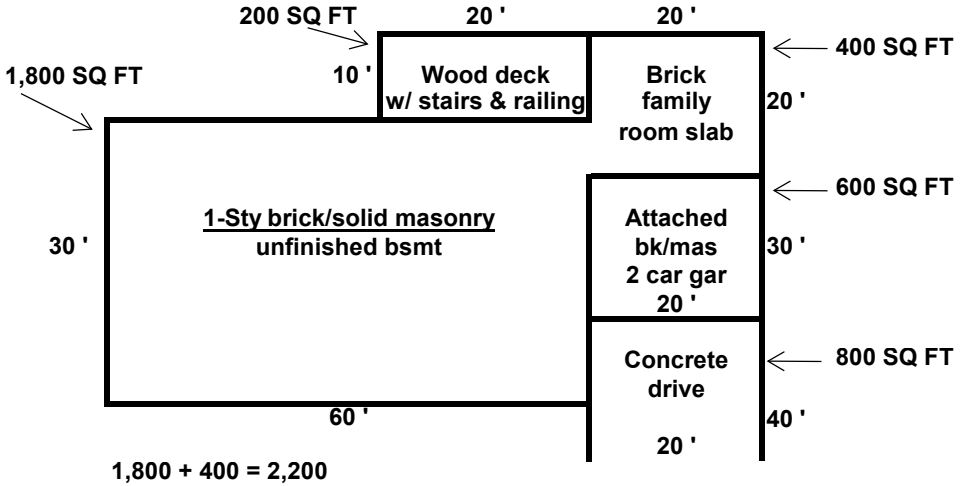
Features	SF	Quality	Type
Pt. Msy Trim			Brk[1] Stone[2] Art[3]
Finished			Living
Basement			Recreation
Fireplaces	#1	masonry	Stacks #1
Integral garage		On grade [1]	Below [2]
Attached garage	600	Frm[1] Msy.[2]	Carport[3]

Remodeled — Sold Date Mo. Day Yr.

NH — Amount $

Memo

Condo. Comm.	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]		
Prorated %	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]		
With:	Porch	SF	OFP[1] EFP[2] OMP[3] EMP[4] 2-Sty[5]		
	Wd. deck	200 SF	(Wood deck [6])		



Age 5 yrs	Adj. Age
CDU Average	
Grade B	
Dwelling Computations	
1 Sty. BRK Constr.	2,200 SF
Sty. Constr.	SF
2,200	$ 228,700
Basement 1,800 SQ FT	+16,470
Heating/Central air	+5,440
Sched. Comb.	
Plumbing + 3	+5,655
Attic	
Porches	
Wood deck 17.35 x 200	+3,470
Attach./~~Integral~~ garage +	+22,560
Total	282,295
Grade B	1.22
Total	344,400
Other features	
Pt. msy. Walls	
Fireplace	+5,340
Finished basement	
Total	349,740
C x D	1.06
NH x AP	
Replacement cost new	370,724
Eff. Age 5 / Depr. 6%	REL 94% .94
S C M I	Full Value 348,481

Summary of Other Buildings

Type	No.	Construction	Size	Rate	Grade	Age	CDU	Factor	Repl. Cost new	REL	Full Value
Garage (detached)		Frm[1] Msy.[2] Carport[3]									
Drive	**1**	**Concrete**	**800**	**4.90**	**B / 1.22**	**5**	**Avg.**	**1.06**	**5,069**	**.94**	**4,765**

Listed by:

Date:

Total full value other buildings 4,765

Total full value all buildings 353,246

Unit 4 Review Questions

1. **False** You need to make an adjustment if an improvement has 5 plumbing fixtures.

2. **True** A frame house of 1,000 square feet on a slab will not have an adjustment for a basement.

3. **True** All detached garages are calculated using the Summary of Other Buildings section on the PRC.

4. **False** The quality grade is used to determine an REL factor.

5. **False** To compute the value for an enclosed frame porch of 60 square feet and an enclosed frame porch of 40 square feet, you should add the square footage of the porches together and price out a porch of 100 square feet from the cost tables.

Property Record - Commercial - Industrial

Exercise 5-1

Construction Specifications

Foundation						
Sprd. Ftg	X	Pile				
Caisson		Other				

Wall Framing	B	1	2	3	A	
Wood						
Steel O/FP						
Reinf. Concrete		X	X			
Load Bearing		X	X			

Frame Bay - Bay Area SF

Floors						
Wood		X	X			
Steel O/FP						
Reinf. Concrete						

Frame: Wood | Steel | (Conc.)

Exterior Walls						
Siding						
Masonry Blk./Brk.						
Steel						
Glass						
Brk / Conc Blk		X	X			

Finish						
Unfinished						
Finished Open						
Finished Divd.		X	X			

Heat						
Cent. Wm. Air		X	X			
Ht. Wt/Steam						
Unit Heaters						
None						

Air Conditioning						
Central		X	X			
Unit						
None						

Roofing			
Composition		Shingle	X
Slate		Metal	

Frame: (Wood) | Steel | Conc.

Plumbing Type			
1	56	2	
3		4	
	Sprinkler		

Use

Store		Office		Vacant	
Apt. 1 & 2		WH		Abandoned	
Factory					

No. of Units 8
Avg. Unit Size 880
No. Rooms Per Unit 4
Prorated @ _____ % with:

8-Unit apartment

44 '

2-Sty brk on concrete block slab

80 '

Data Bank

SF Ground Area	3,520
Eff. Perim LF	
CF of Bldg.	
SF Wall Area	
Wall Ratio	

2 Sty. **Apt.** Sched.

Size _____ x Shape _____ x Weight _____

56 Total
- 40 included
16 extra x $1,795

S C M I Grade **C**

C&D G **1.00** NH A =FAC **1.00**

Eff. Age	Eff. Age	CDU	Age
10		Avg.	10

Depreciation = .10

Description

Flr. Price x Ht. Adj.

Computation

WH		
	Bsmt.	
	1st Floor	205.50
	2nd Floor	176.55
	3rd Floor	
Base Price		382.05
BPA		
Adj. Base Price		
Heat		
A/C		
Electrical Light		
Sprinkler		
SF Price		382.05
SF		3,520
Subtotal		1,344,816
Plumbing		28,720
Partitions		
Front		
Canopy		
Dock		
Total		1,373,536
Replacement Cost New		1,373,536
REL		.90
Full Value		1,236,182

Summary of Other Buildings

Type	No.	Construction	Size	Rate	Grade	Age	CDU	Factor	Repl. Cost New	REL	Full Value

Listed by:
Date:

Total full value other buildings
Total full value all buildings 1,236,182

Property Record - Commercial - Industrial

Exercise 5-2

Construction Specifications							Use							Data Bank		Description			Computation
Foundation							Store		Office		Vacant			SF Ground Area	6,936	Flr. Price x Ht. Adj.		WH	
Sprd. Ftg	X	Pile					Apt.	X	WH		Abandoned			Eff. Perim LF				Bsmt.	
Caisson		Other					Factory							CF of Bldg.				1st Floor	161.35
Wall Framing							No. of Units	24						SF Wall Area				2nd Floor	142.00
	B	1	2	3	A		Avg. Unit Size	867						Wall Ratio				3rd Floor	137.15
Wood							No. Rooms Per Unit	5						3 Sty. Apt. Sched.					
Steel O/FP							Prorated @ ____% with:												
Reinf. Concrete																		Base Price	440.50
Load Bearing		X	X	X										Size ____ x Shape ____ x Weight ____				BPA	
Frame Bay - Bay Area						SF												Adj. Base Price	
Floors																		Heat	
Wood		X	X	X														A/C	included
Steel O/FP																		Electrical Light	
Reinf. Concrete																		Sprinkler	
Frame	(Wood)	Steel	Conc.																
Exterior Walls																			
Siding																			
Masonry Blk./Brk.																			
Steel																			
Glass																			
(Brk Veneer Wd Studs)		X	X	X															
Finish																			
Unfinished																			
Finished Open																			
Finished Divd.		X	X	X															
Heat																			
Cent. Wm. Air		X	X	X															
Ht. Wt/Steam																			
Unit Heaters																			
None																			
Air Conditioning																			
Central		X	X	X															
Unit																			
None																			
Roofing																			
Composition	X	Shingle																	
Slate		Metal																	
Frame	(Wood)	Steel	Conc.																
Plumbing Type																			
1	168	2																	
3		4																	
	Sprinkler																		

68 '

102 '

3-Sty brk veneer
on wood studs slab

6,936
6,936
6,936
20,808

20,808
÷ 24
units = 867
avg. unit
size

168 Total
- 120 included
48 extra x $1,795

S C M I — Grade C — G 1.00 — NH — A — =FAC 1.00

Eff. Age	Eff. Age	CDU	Age
50		Avg.	50

Depreciation = .43

Total	3,141,468
Replacement Cost New	3,141,468
REL	.57
Full Value	1,790,637

Summary of Other Buildings

Type	No.	Construction	Size	Rate	Grade	Age	CDU	Factor	Repl. Cost New	REL	Full Value

Listed by:
Date:

Total full value other buildings
Total full value all buildings 1,790,637

Unit 5 Review Questions

1. **False** When using the apartment schedules, you must consider a size adjustment, a wall height adjustment, a construction weight adjustment, and a shape adjustment.

2. **False** When using the REL table for apartment buildings, you must make a separate decision concerning the physical condition of the structure in comparison to similar structures. Then you must make a decision concerning the desirability and the utility of the structure.

3. **True** Using the apartment schedules, you must add for the cost of physical features not included in the base price.

4. An apartment building may have the following adjustments to the base price:
   a. Add for air conditioning
   b. Subtract for extra plumbing fixtures
   c. <u>Deduct for the absence of air conditioning</u>
   d. Add for extra windows.

5. A 3-story 15-unit brick on concrete block apartment building having a length of 90' and a width of 55' has a base price entered into the computation ladder of
   a. <u>$554.75 per square foot</u>
   b. $556.75 per square foot
   c. $525.75 per square foot
   d. $501.75 per square foot

6. If the above apartment building does not have any air conditioning, you will
   a. Place a -$180.55 in the computation ladder
   b. <u>Have an adjustment of -$52.05 in the computation ladder</u>
   c. Make and adjustment of -$17.35 in the computation ladder
   d. Make no adjustment

Exercise 6-1

Address	Comparable 1 1306 Archer	Comparable 2 814 Adams	Comparable 3 1414 State	Comparable 4 6607 Healey	Comparable 5 1209 Monroe
Sale Price	$75,000	$63,000	$69,500	$62,800	$59,700
Number of months since sale ($500/mo)	5 **$2,500**	4 **$2,000**	3 **$1,500**	5 **$2,500**	12 **$6,000**
Adjusted sale price	**$77,500**	**$65,000**	**$71,000**	**$65,300**	**$65,700**
Foundation	Basement **-$2,500**	Crawl **$0**	Basement **-$2,500**	Basement **-$2,500**	Slab **+$1,000**
Number of plumbing fixtures	5 **$0**	7 **-$1,000**	8 **-$1,500**	7 **-$1,000**	5 **$0**
Number of bedrooms	3 **+$1,500**	4 **$0**	4 **$0**	3 **+$1,500**	3 **+$1,500**
Garage (# of stalls)	1 **$0**	1 **$0**	2 **-$5,000**	1 **$0**	1 **$0**
Central air conditioning	No **+$1,500**	Yes **$0**	Yes **$0**	No **+$1,500**	Yes **$0**
Number of fireplaces	1 **$0**	0 **+$1,200**	2 **-$1,200**	1 **$0**	0 **+$1,200**
Location adjustment	+2% **+$1,550**	No adj. **$0**	-3% **-$2,130**	+4% **+$2,612**	No adj. **$0**
Lot size adjustment	+6% **+$4,650**	No adj. **$0**	+2% **+$1,420**	No adj. **$0**	No adj. **$0**
Net adjustment	**+$6,700**	**+$200**	**-$10,910**	**+$2,112**	**+$3,700**
Total number of adjustments	**5**	**2**	**6**	**5**	**3**
Final adjusted Sale Price **(Adj. sale price + net adj.)**	**$84,200**	**$65,200**	**$60,090**	**$67,412**	**$69,400**

Unit 6 Review Questions

1. **True** When using the sales comparison, or market approach, one never adjusts the subject property.

2. **False** Make a minus adjustment to your comparable property if it is inferior to your subject property.

3. **False** If the market is showing an annual increase of 3 percent, a sale occurring 2 years ago would have a minus adjustment of 6 percent.

4. **True** Three to five sales are recommended when using the sales comparison, or market approach, to value property.

5. **True** The property most comparable to the subject is the comparable with the least number of adjustments.

Unit 6 Review Problem

Use the Sales Comparison Approach to arrive at a value for the subject property.

The subject property contains:
4 bedrooms, 2 bathrooms, air conditioning, 2 car garage

The adjustments are:

$1,200 per bathroom fixture
$2,000 per bedroom variance
$6,000 per garage variance
Time adjustment of +$500
No A/C $5,000
Location adjustment is 5%

Address	Sale 1	Sale 2	Sale 3	Sale 4	Sale 5
Sale Price	$115,700	$103,800	$100,500	$113,600	$112,100
Number of months since sale ($500/mo)	2 **+$1,000**	12 **+$6,000**	4 **+$2,000**	3 **+$1,500**	6 **+$3,000**
Adjusted sale price	**$116,700**	**$109,800**	**$102,500**	**$115,100**	**$115,100**
Number of bathrooms	2 **$0**	1 ½ **+$1,200**	1 **+$3,600**	2 **$0**	1 ½ **+$1,200**
Number of bedrooms	4 **$0**	3 **+$2,000**	3 **+$2,000**	4 **$0**	4 **$0**
Garage (# of stalls)	1 **+$6,000**	1 **+$6,000**	2 **$0**	2 **$0**	1 **+$6,000**
Central air conditioning	Yes **$0**	Yes **$0**	No **+$5,000**	No **+$5,000**	Yes **$0**
Location adjustment	Inferior **+$5,835**	Comparable **$0**	Superior **-$5,125**	Comparable **$0**	Inferior **+$5,755**
Net adjustment	**$11,835**	**$9,200**	**$5,475**	**$5,000**	**$12,955**
Total number of adjustments	**2**	**3**	**4**	**1**	**3**
Final adjusted Sale Price (Adj. sale price + net adj.)	**$128,535**	**$119,000**	**$107,975**	**$120,100**	**$128,055**

The value the assessor would place on the property is: **$120,100**

The most comparable property is: **4**

Answer the following questions:

a. The adjustment for bedrooms for Sale #2 is: **+$2,000**
b. The time adjustment for Sale #5 is: **+$3,000**
c. The adjustment for bathroom fixtures for Sale #4 is: **No change**
d. The location adjustment for Sale #1 is: **+$5,835**
e. The adjustment for air conditioning for Sale #3 is: **+$5,000**
f. The final adjusted sale price for Sale #2 is: **$119,000**
g. The adjustment for garages for Sale #5 is: **+$6,000**

Unit 7 Review Questions

1. What is the formula for the income approach?

$$\frac{I}{R \bullet V}$$

Match these terms to the correct definition. Some terms may require more than one definition.

A = Equity Rate

B = Income Taxes

C = Certain amount set aside over a period of time for wear and tear items to be replaced.

D = Effective tax rate

E = Real estate taxes

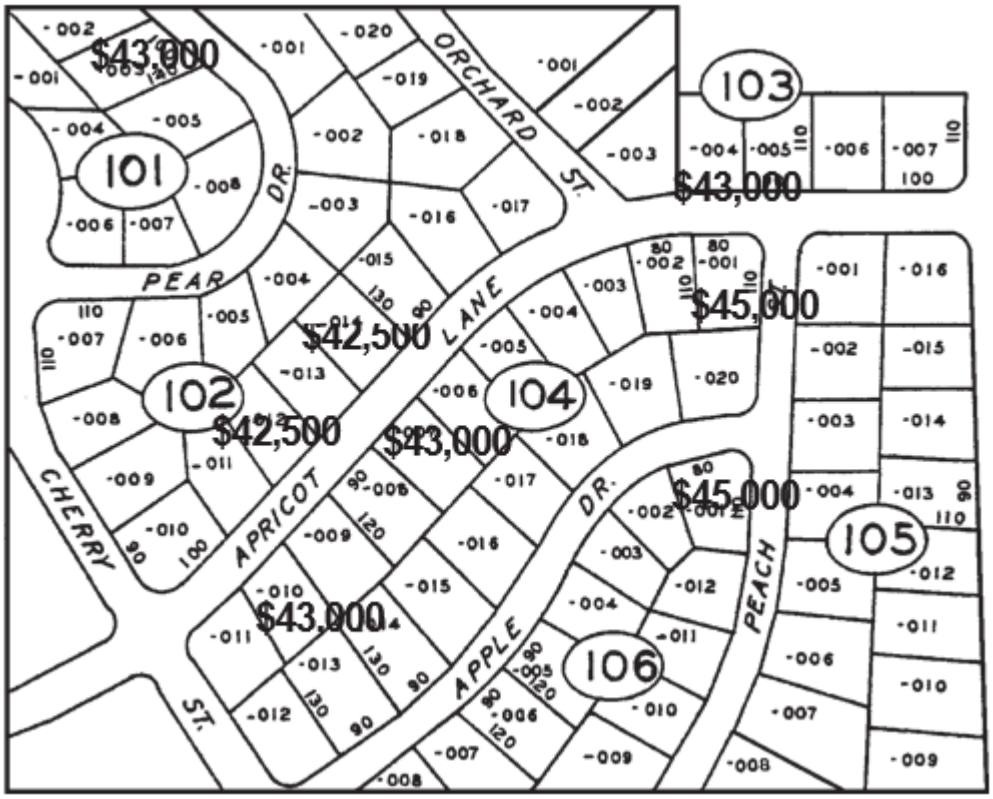
F = Based on 100 percent occupancy using economic rent versus contract rent

G = Mortgage interest rate

F	Potential Gross Income
A, D, G	Land capitalization rate
B, E	Unallowable expenses
A, D, G	Building capitalization rate
C	Reserve for replacements

Exercise 8-1 worksheet

Sales comparison or market approach



You are appraising lots in a subdivision that began development five years ago. All of the lots are level with mature trees. The area surrounding the subdivision is wooded and undeveloped. Based on the eight lots that have sold recently, what is the indicated value of the lots you are appraising?

Part 1: Recent Sales in the Subdivision

Write each sale price on the applicable parcel.

05-21-101-003	$43,000	05-21-104-007	$43,000
05-21-102-012	$42,500	05-21-104-001	$45,000
05-21-102-014	$42,500	05-21-104-010	$43,000
05-21-103-004	$43,000	05-21-106-001	$45,000

Part 2: Write the indicated value of these lots.

05-21-101-005	$**43,000**	05-21-105-001	$**45,000**
05-21-102-013	$**42,500**	05-21-105-007	$**43,000**
05-21-104-014	$**43,000**	05-21-106-010	$**43,000**

Exercise 8-2
Demonstration of adjustments from market analysis

In the previous exercise, it was noted that the lots were all level with mature trees, the areas surrounding the lots were wooded and undeveloped, and the sales were all recent. No adjustments were necessary to arrive at a value.

In this exercise, by using the sales comparison, or market approach, method, you will determine the value of adjustments that would be needed to adjust the comparables to the subject property.

You are appraising a subdivision that began to be developed 10 years ago. Now, it is nearing the end of its development life cycle. Approximately 70 percent of the sites are interior sites, lots with trees and sites with level terrain. The remaining 30 percent consists of corner sites, sites with no trees and sites with rolling terrain. It appears that the market responds to differences in location and physical features.

The seven sales listed below have been verified as arm's-length transactions. Using the market data, determine the contributory value for time, location, and physical features.

Site	Sales Price	Sale Date	Size	Location	Physical Features
1	$19,000	Current	75 x 200	Interior	Level, trees
2	$18,500	Current	75 x 200	Corner	Level, trees
3	$20,000	Current	75 x 200	Interior	Rolling, trees
4	$19,000	1 Year Ago	75 x 200	Interior	Rolling, trees
5	$18,000	Current	75 x 200	Interior	Level, no trees
6	$16,500	1 Year Ago	75 x 200	Corner	Level, no trees
7	$17,500	Current	75 x 200	Corner	Level, no trees

Step 1

Analyze the information shown to determine common and variable features. Note which lots have like sale dates, locations, and physical features, such as level, rolling, trees, no trees.

Step 2

Compare the values associated with the various features.

Step 3

Determine values for the adjustments.

1. Based on the above sales, a site that sold today is worth **$1,000** more than a site that sold a year ago.

   Hint: By comparing Sites 3 and 4 and Sites 6 and 7, note that all other variables are equal, such as rolling, with trees, interior locations. The only variables are the dates of the sales. Therefore, by comparing the values, we could arrive at a value for time adjustment of $1,000.

2. A site that is on rolling terrain is worth **$1,000** more than a site on level terrain.

   Hint: Look at Sites 1 and 3.

3. A site that has trees is worth **$1,000** more than a site without trees.

   Hint: Remember that you want to look at sites whose features match except for the physical feature of trees.

   Sites **1** and **5** & Sites **2** and **7**

4. An interior site is worth $**500** more than a corner site.

   Hint: Sites **1** and **2** & Sites **5** and **7**

After determining the appropriate values for the variables, you could then use this information to adjust any of the properties you needed to value.

Use the values established previously to make the necessary adjustments to the comparables listed below. Use the sales comparison, or market approach, method to arrive at a value for our subject property.

The subject property is a 75 x 200 foot lot. It is an interior lot with level terrain and nice trees.

Comparable 1 sold one year ago for $35,000. It is an interior lot with rolling terrain and nice trees.

Comparable 2 sold recently for $35,500. It is a corner lot with level terrain and nice trees.

Comparable 3 sold one year ago for $35,000. It is an interior lot with rolling terrain and no trees.

1. Write the adjusted value for Comparable 1. $**35,000**
   (35,000 + 1,000 - 1,000)

2. Write the adjusted value for Comparable 2. $**36,000**
   (35,500 + 500)

3. Write the adjusted value for Comparable 3. $**36,000**
   (35,000 + 1,000 - 1,000 + 1,000)

4. Based on the three sales provided, what is the value for the subject property?

   $**36,000**

Unit 8 Review Questions

1. When valuing residential land in rural areas, the **sales comparison** or **market** approach to value is the best method to use.

2. List three adjustments that may be necessary to determine a value when comparing property that has sold.

    a. **Time**
    b. **Size**
    c. **Physical features**

3. Does the location of a property on a corner affect the value?

    Sometimes